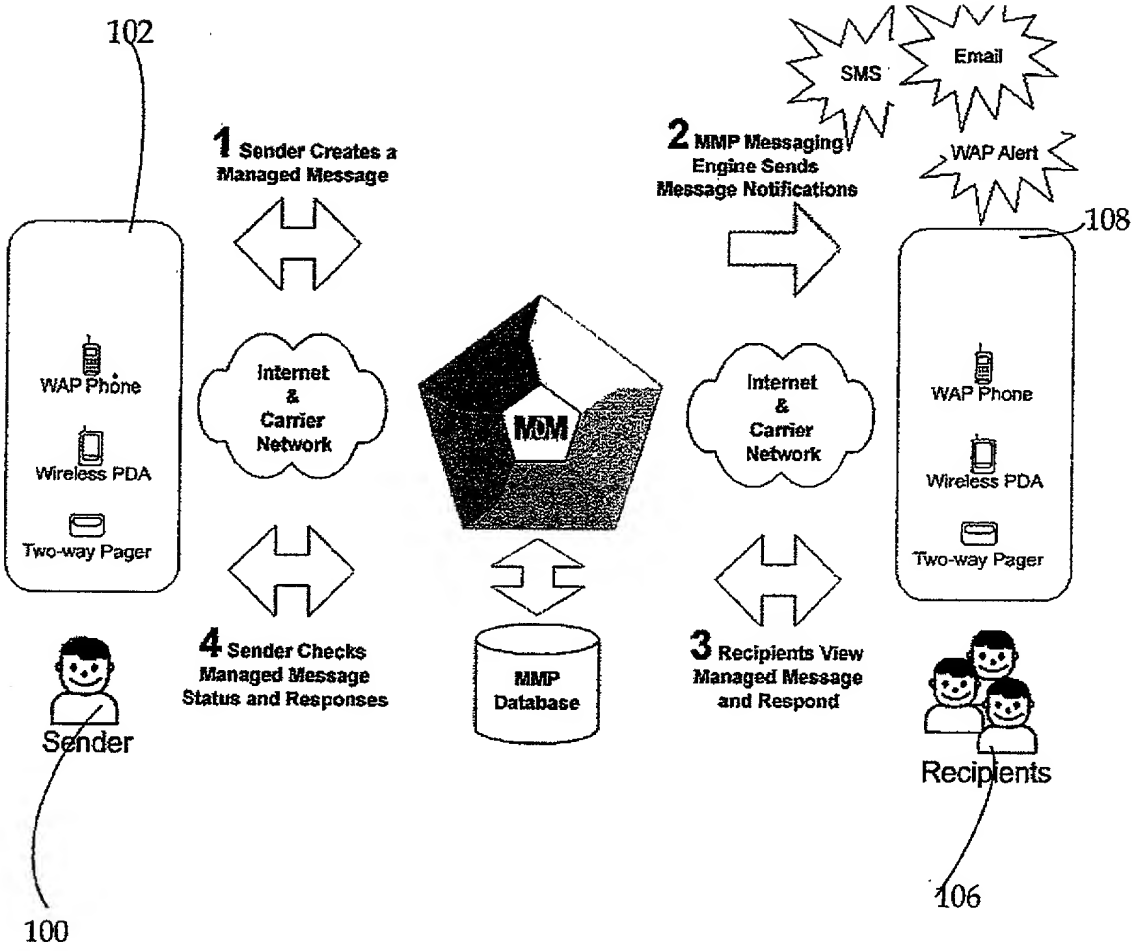

102
1 Sender Creates a Managed Message
WAP Phone
Wireless PDA
Two-way Pager
Internet & Carrier Network
4 Sender Checks Managed Message Status and Responses
Sender
100
MMP
MMP Database
SMS
Email
WAP Alert
2 MMP Messaging Engine Sends Message Notifications
Internet & Carrier Network
3 Recipients View Managed Message and Respond
108
WAP Phone
Wireless PDA
Two-way Pager
Recipients
106

Fig.1

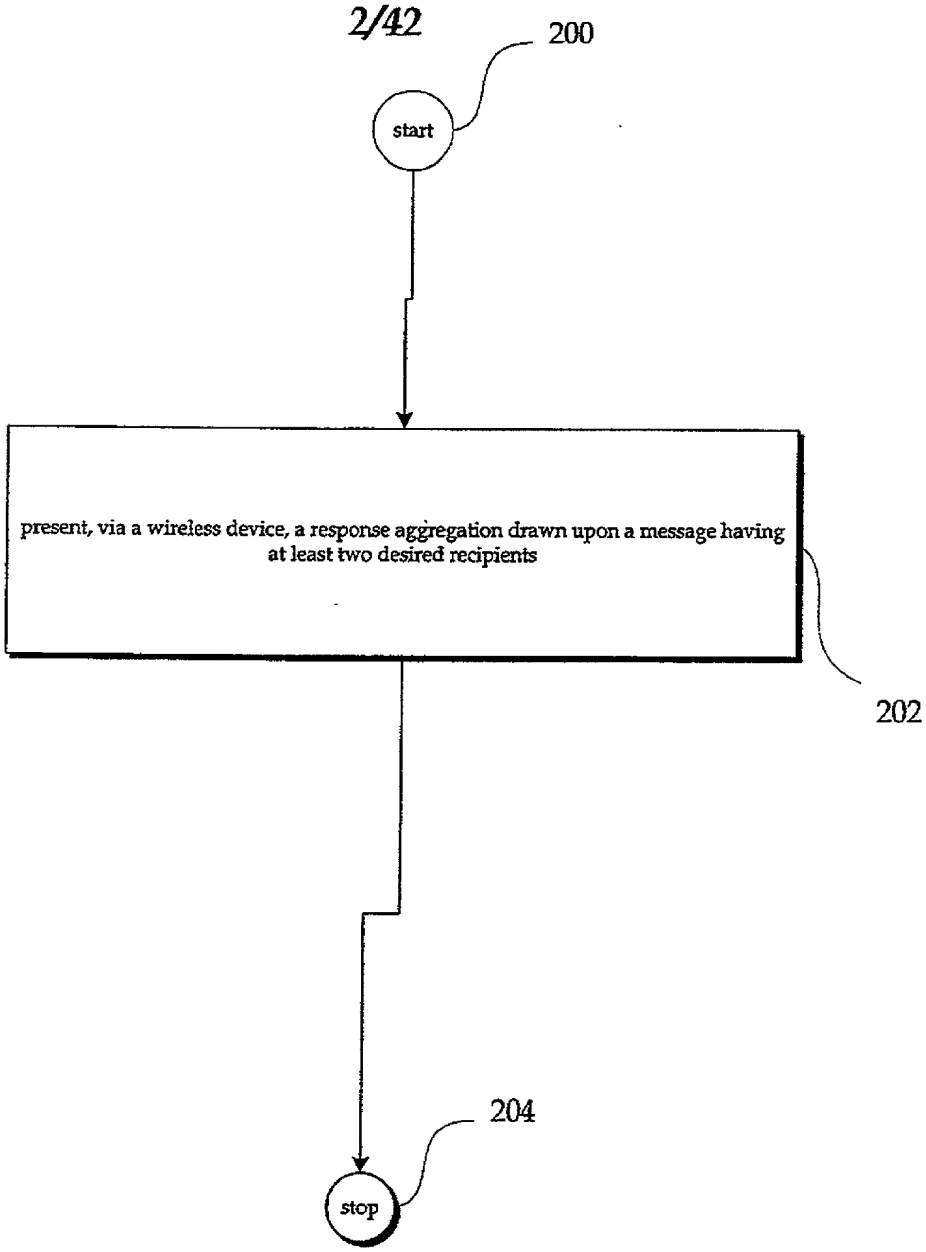

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
202
204
stop

Fig.2

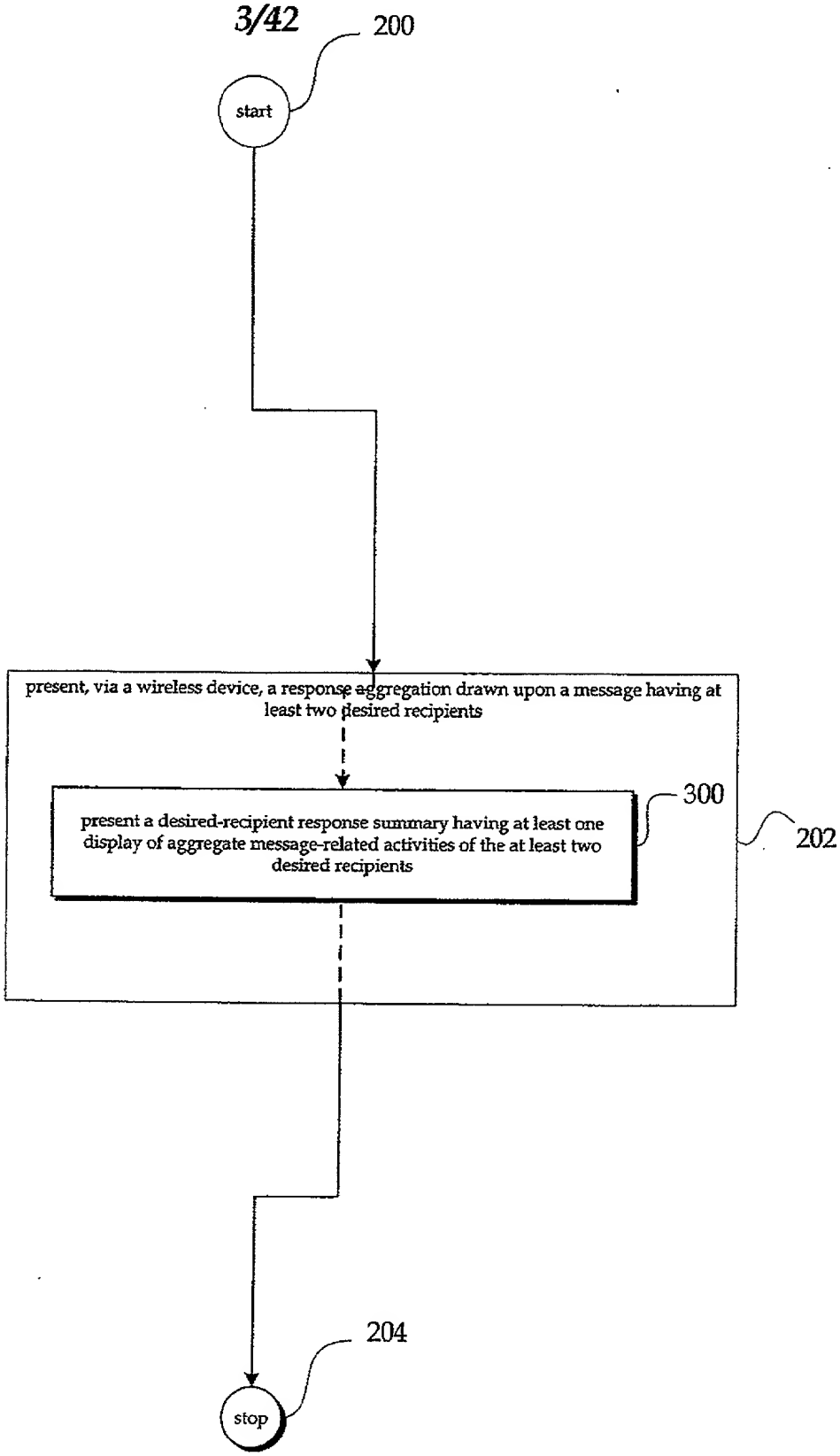
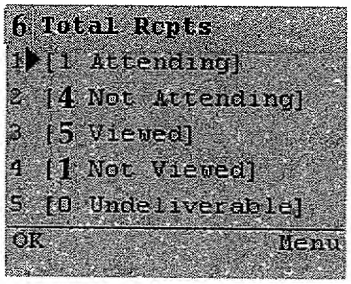
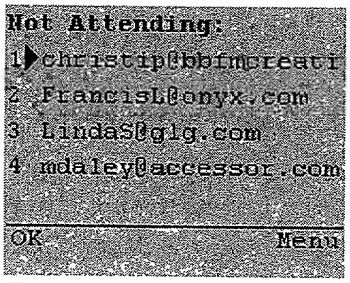

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
present a desired-recipient response summary having at least one display of aggregate message-related activities of the at least two desired recipients
300
202
204
stop

Fig.3

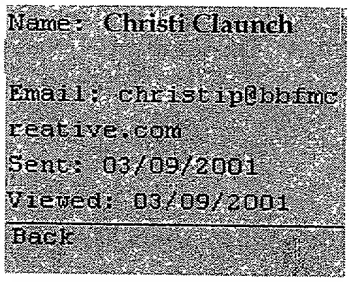


Recipient response summary

850



Drill down into the "Not Attending" recipient list.



Details of a particular recipient showing the name, email address, Sent date, Viewed date, RSVP date and RSVP status, and other structured element responses.

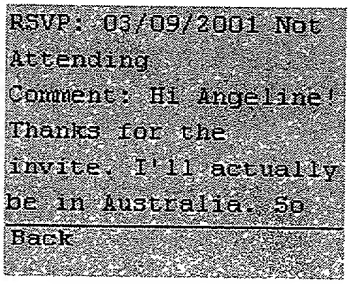


Fig.8B

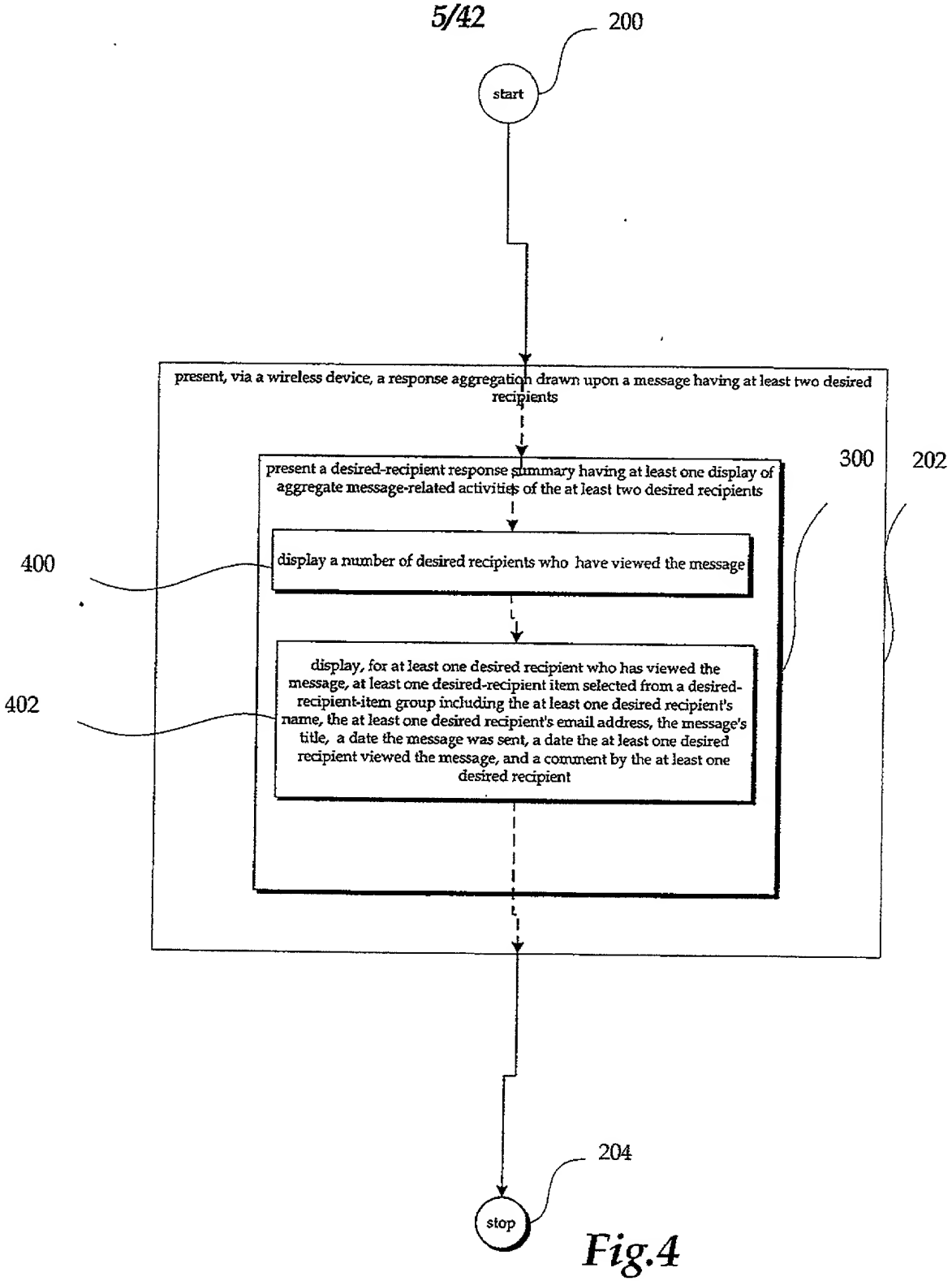

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
300
202
present a desired-recipient response summary having at least one display of aggregate message-related activities of the at least two desired recipients
400
display a number of desired recipients who have viewed the message
402
display, for at least one desired recipient who has viewed the message, at least one desired-recipient item selected from a desired-recipient-item group including the at least one desired recipient's name, the at least one desired recipient's email address, the message's title, a date the message was sent, a date the at least one desired recipient viewed the message, and a comment by the at least one desired recipient
204
stop

Fig.4

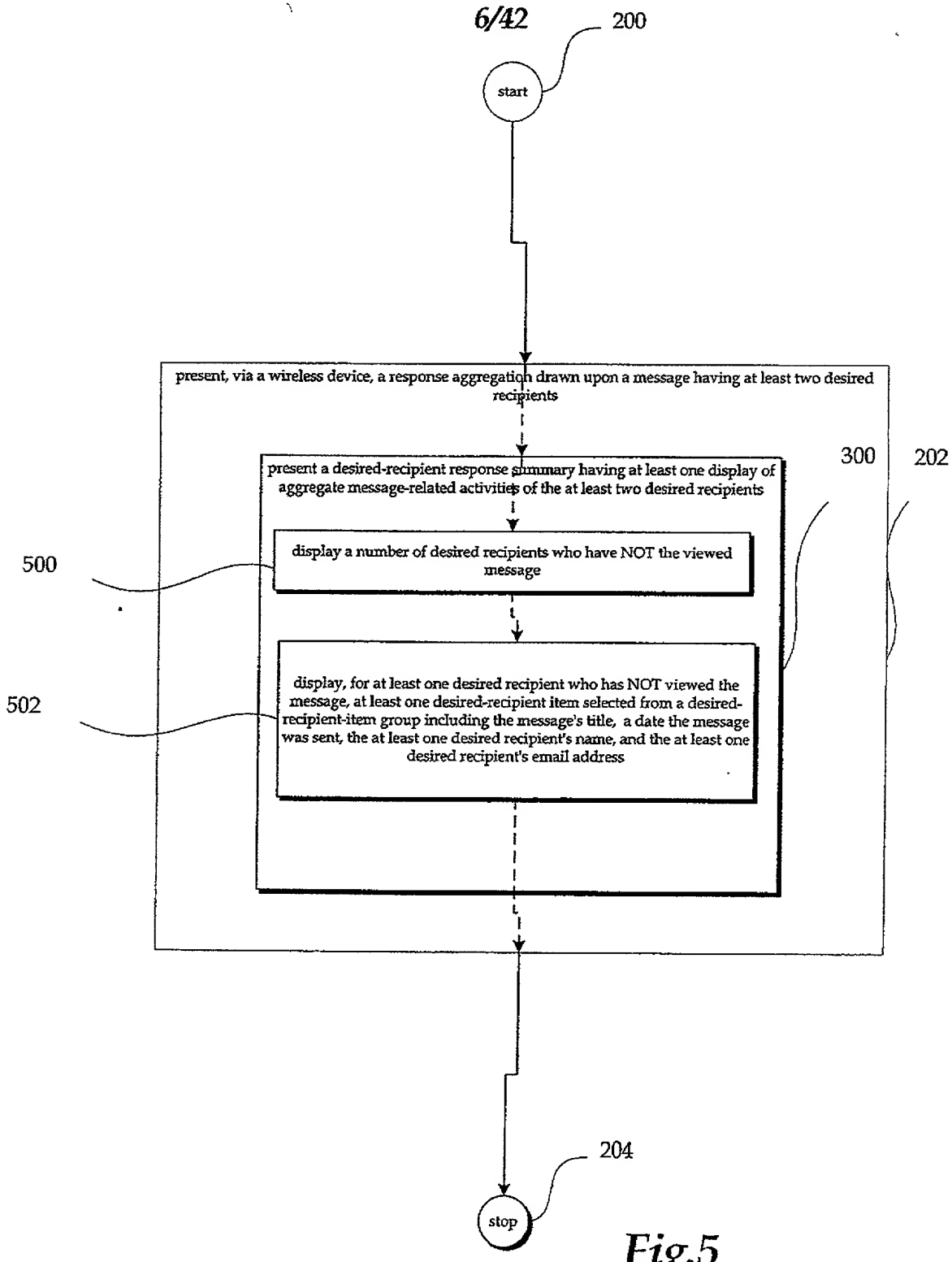

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
300
202
present a desired-recipient response summary having at least one display of aggregate message-related activities of the at least two desired recipients
500
display a number of desired recipients who have NOT the viewed message
502
display, for at least one desired recipient who has NOT viewed the message, at least one desired-recipient item selected from a desired-recipient-item group including the message's title, a date the message was sent, the at least one desired recipient's name, and the at least one desired recipient's email address
204
stop

Fig.5

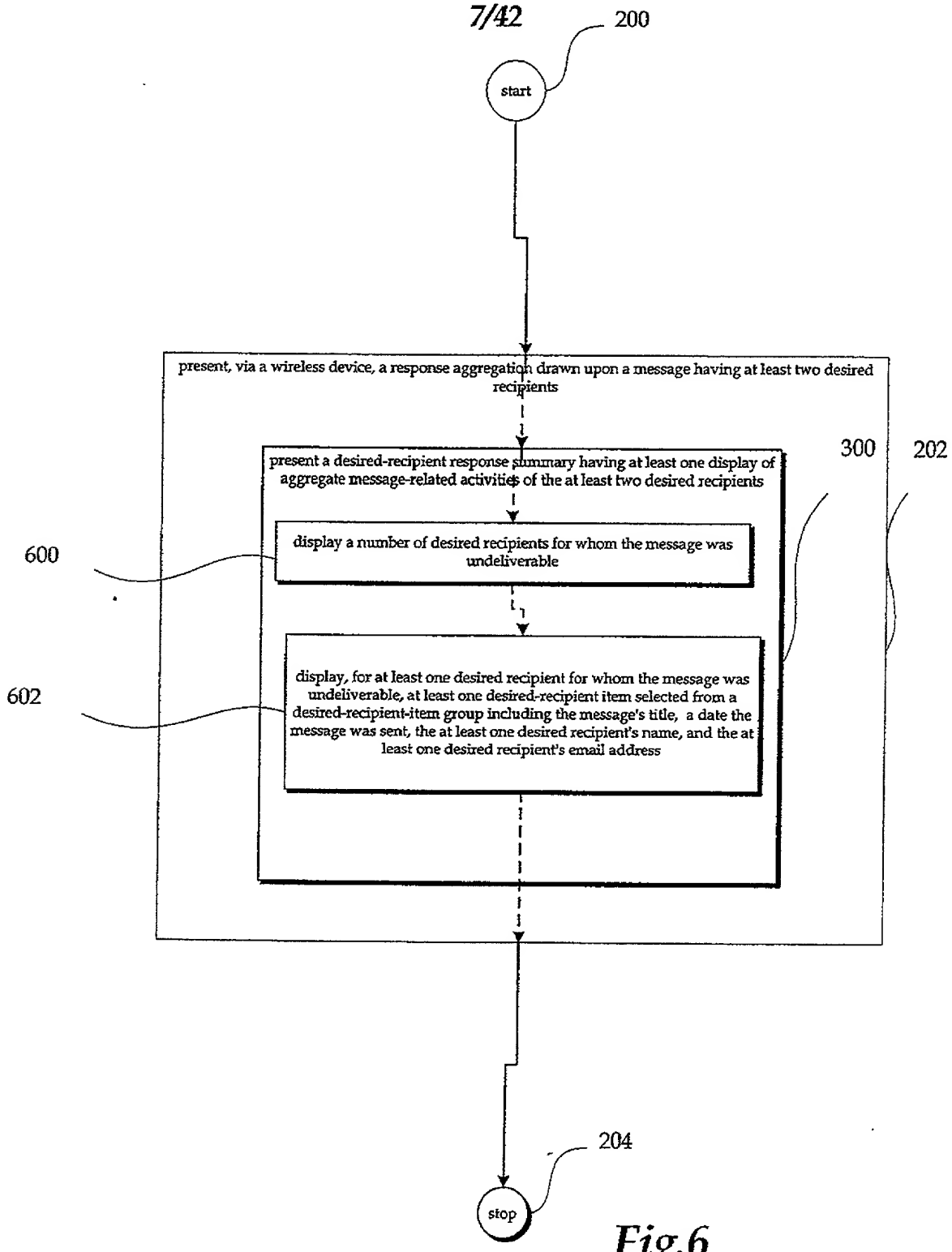

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
300
202
present a desired-recipient response summary having at least one display of aggregate message-related activities of the at least two desired recipients
600
display a number of desired recipients for whom the message was undeliverable
602
display, for at least one desired recipient for whom the message was undeliverable, at least one desired-recipient item selected from a desired-recipient-item group including the message's title, a date the message was sent, the at least one desired recipient's name, and the at least one desired recipient's email address
204
stop

Fig.6

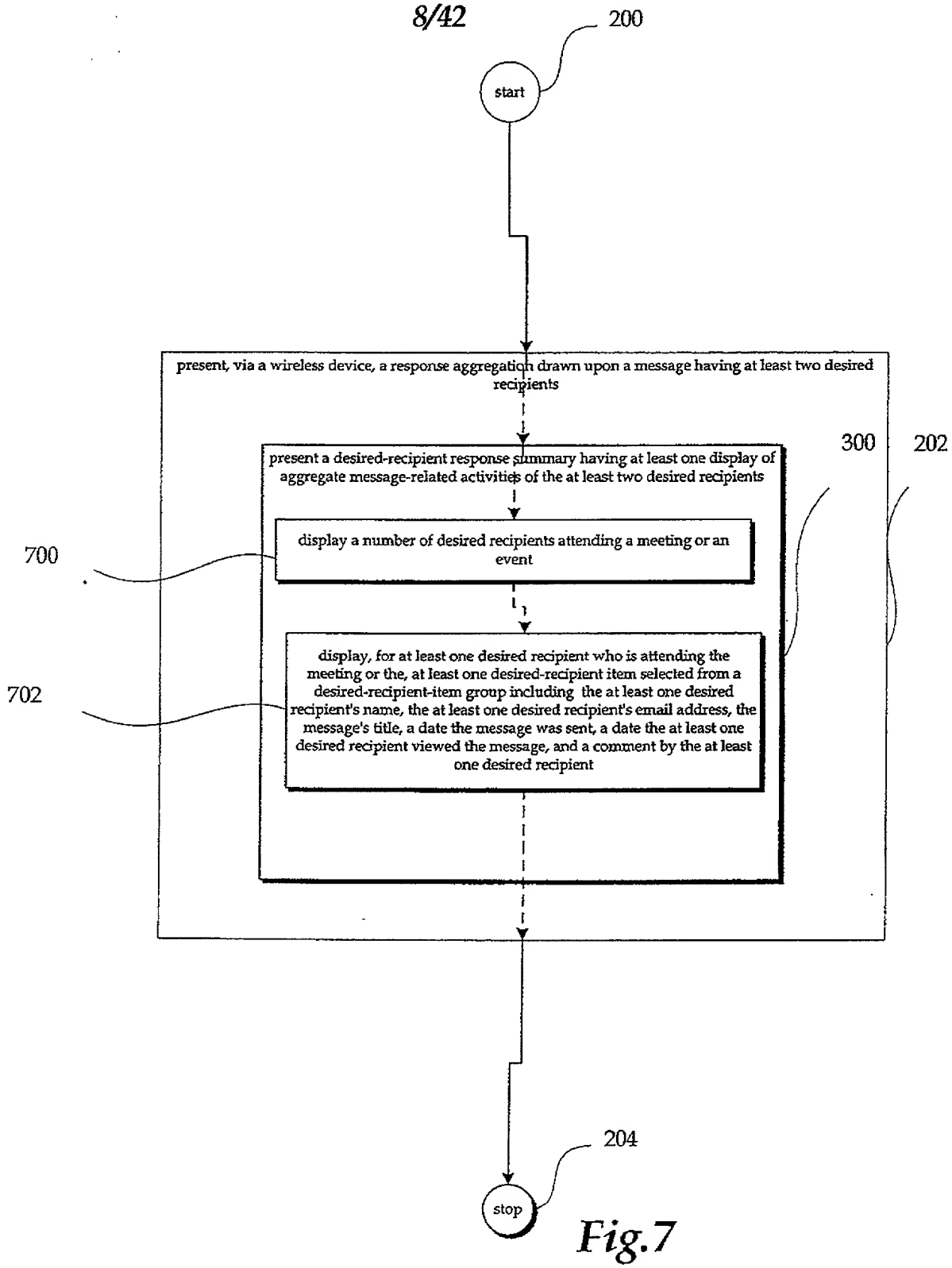

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
300
202
present a desired-recipient response summary having at least one display of aggregate message-related activities of the at least two desired recipients
700
display a number of desired recipients attending a meeting or an event
702
display, for at least one desired recipient who is attending the meeting or the, at least one desired-recipient item selected from a desired-recipient-item group including the at least one desired recipient's name, the at least one desired recipient's email address, the message's title, a date the message was sent, a date the at least one desired recipient viewed the message, and a comment by the at least one desired recipient
204
stop

Fig.7

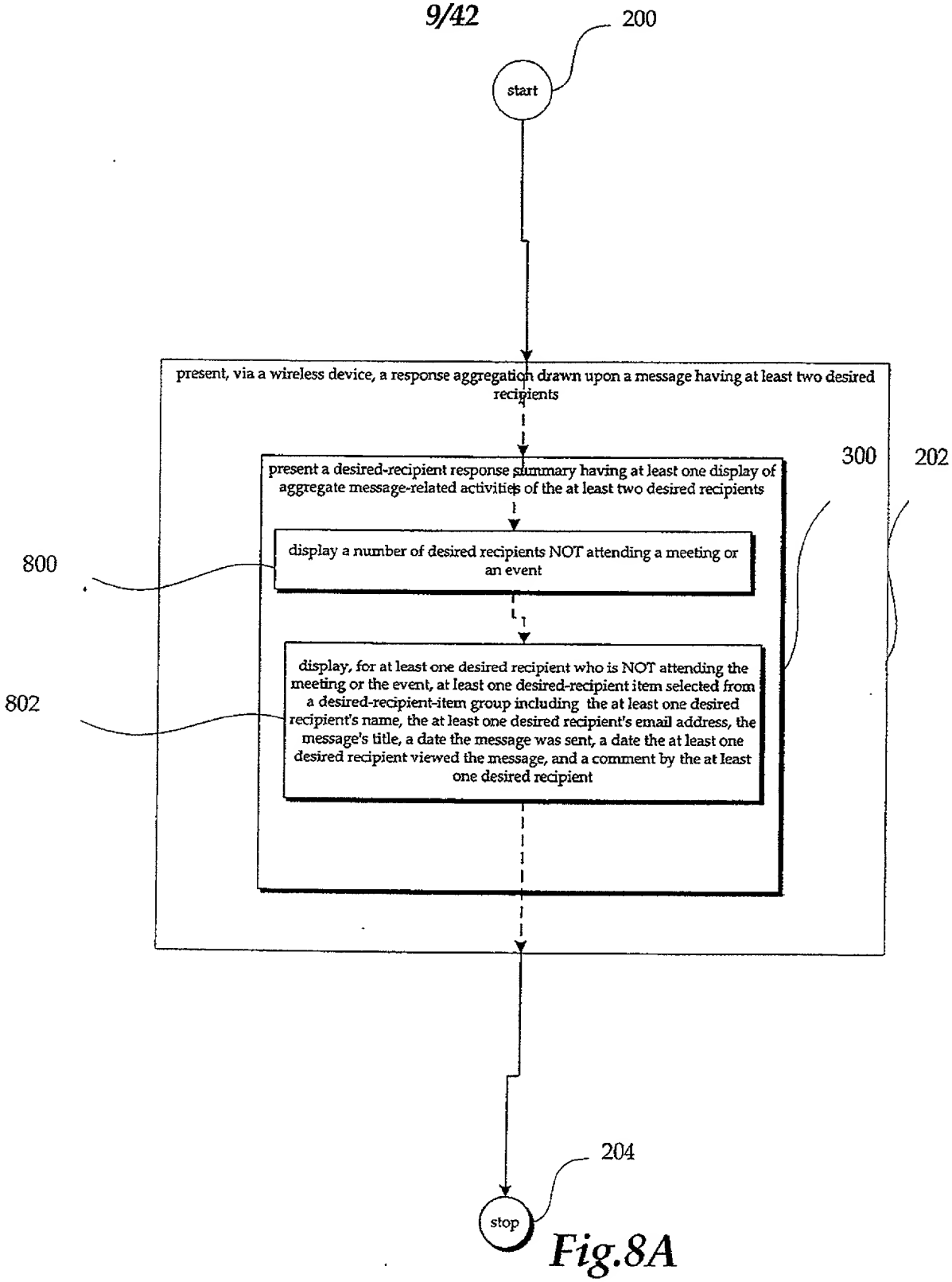

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
300
202
present a desired-recipient response summary having at least one display of aggregate message-related activities of the at least two desired recipients
800
display a number of desired recipients NOT attending a meeting or an event
802
display, for at least one desired recipient who is NOT attending the meeting or the event, at least one desired-recipient item selected from a desired-recipient-item group including the at least one desired recipient's name, the at least one desired recipient's email address, the message's title, a date the message was sent, a date the at least one desired recipient viewed the message, and a comment by the at least one desired recipient
204
stop

Fig.8A

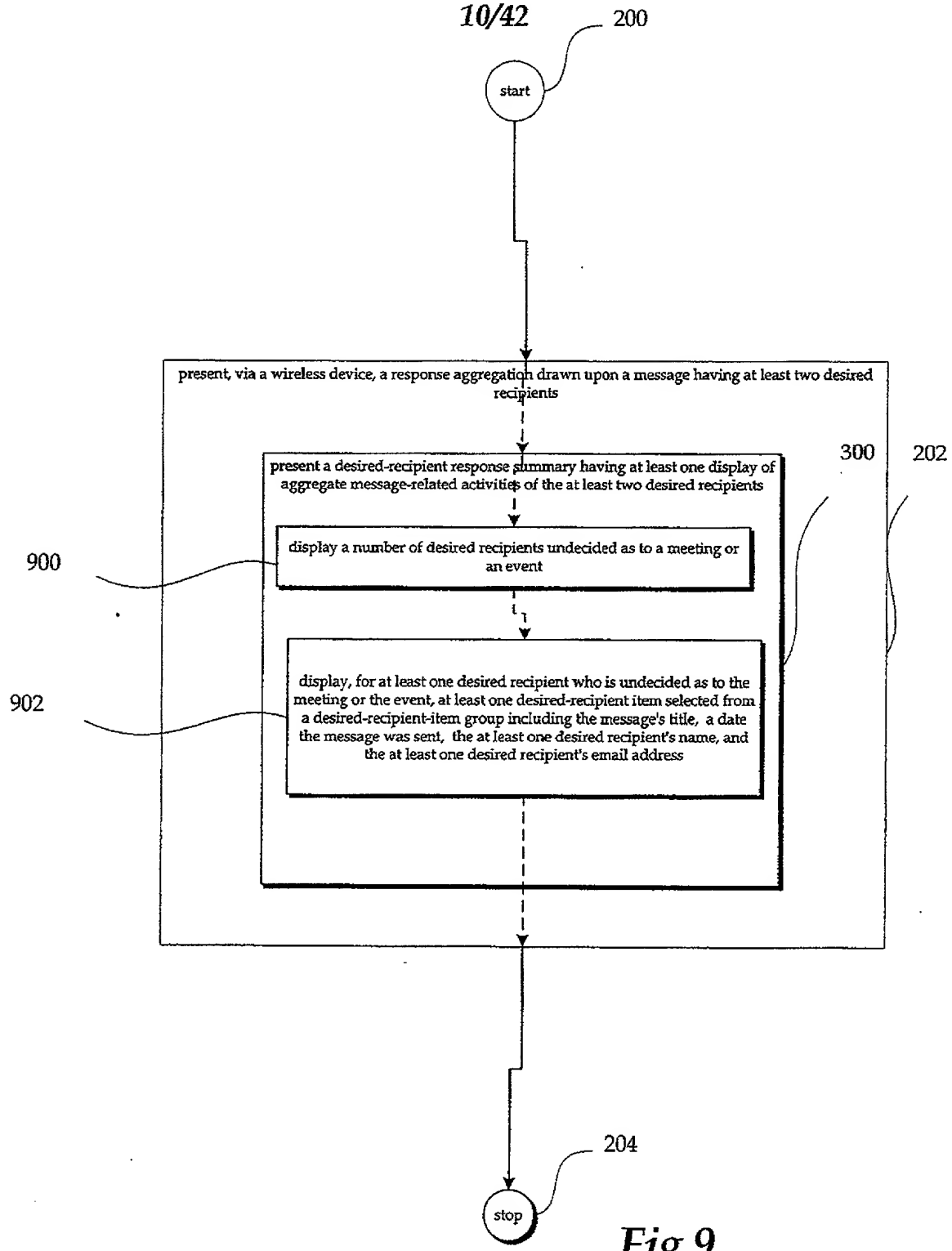

200
start
present, via a wireless device, a response aggregation drawn upon a message having at least two desired recipients
300
202
present a desired-recipient response summary having at least one display of aggregate message-related activities of the at least two desired recipients
900
display a number of desired recipients undecided as to a meeting or an event
902
display, for at least one desired recipient who is undecided as to the meeting or the event, at least one desired-recipient item selected from a desired-recipient-item group including the message's title, a date the message was sent, the at least one desired recipient's name, and the at least one desired recipient's email address
204
stop

Fig.9

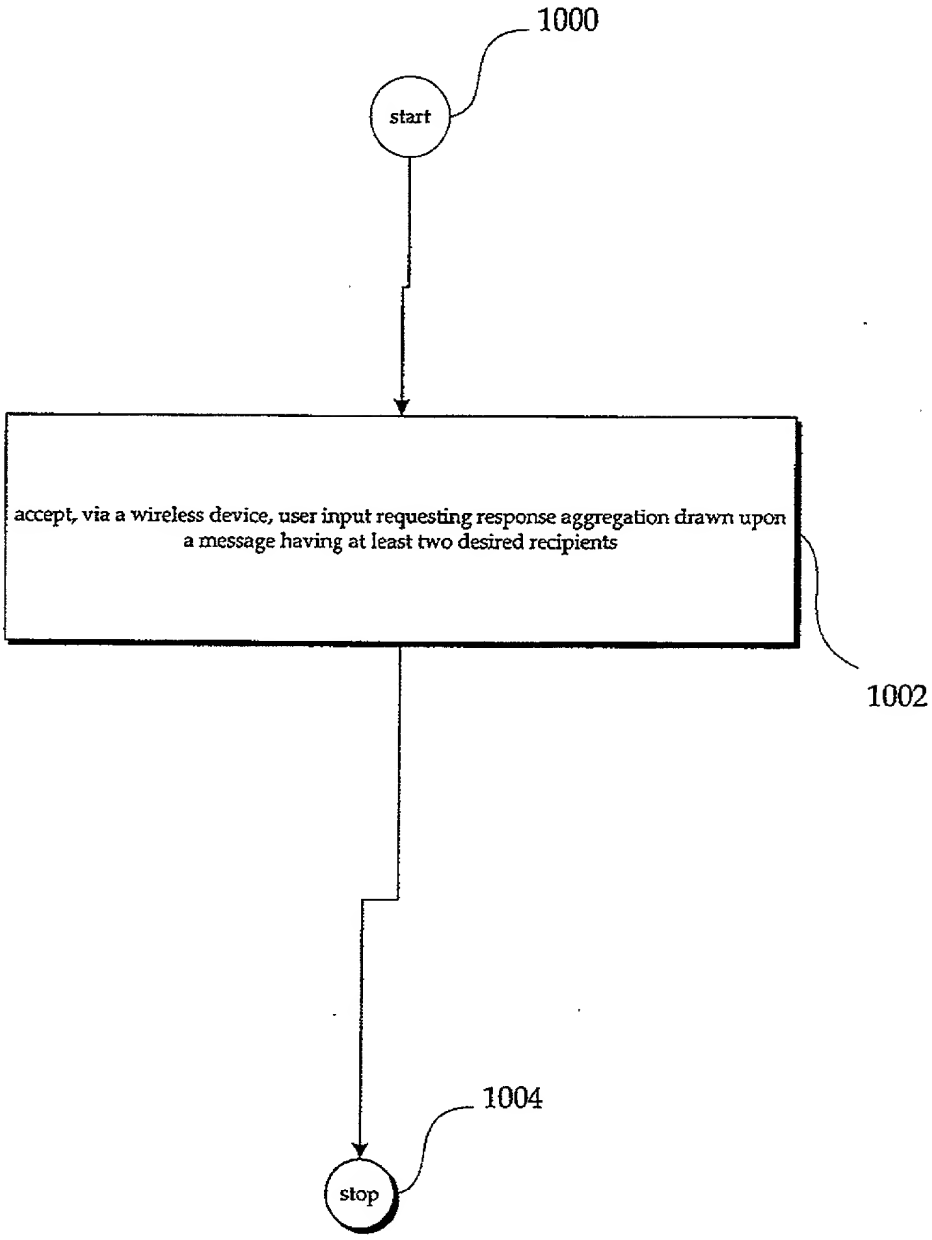

1000
start
accept, via a wireless device, user input requesting response aggregation drawn upon a message having at least two desired recipients
1002
1004
stop

Fig.10

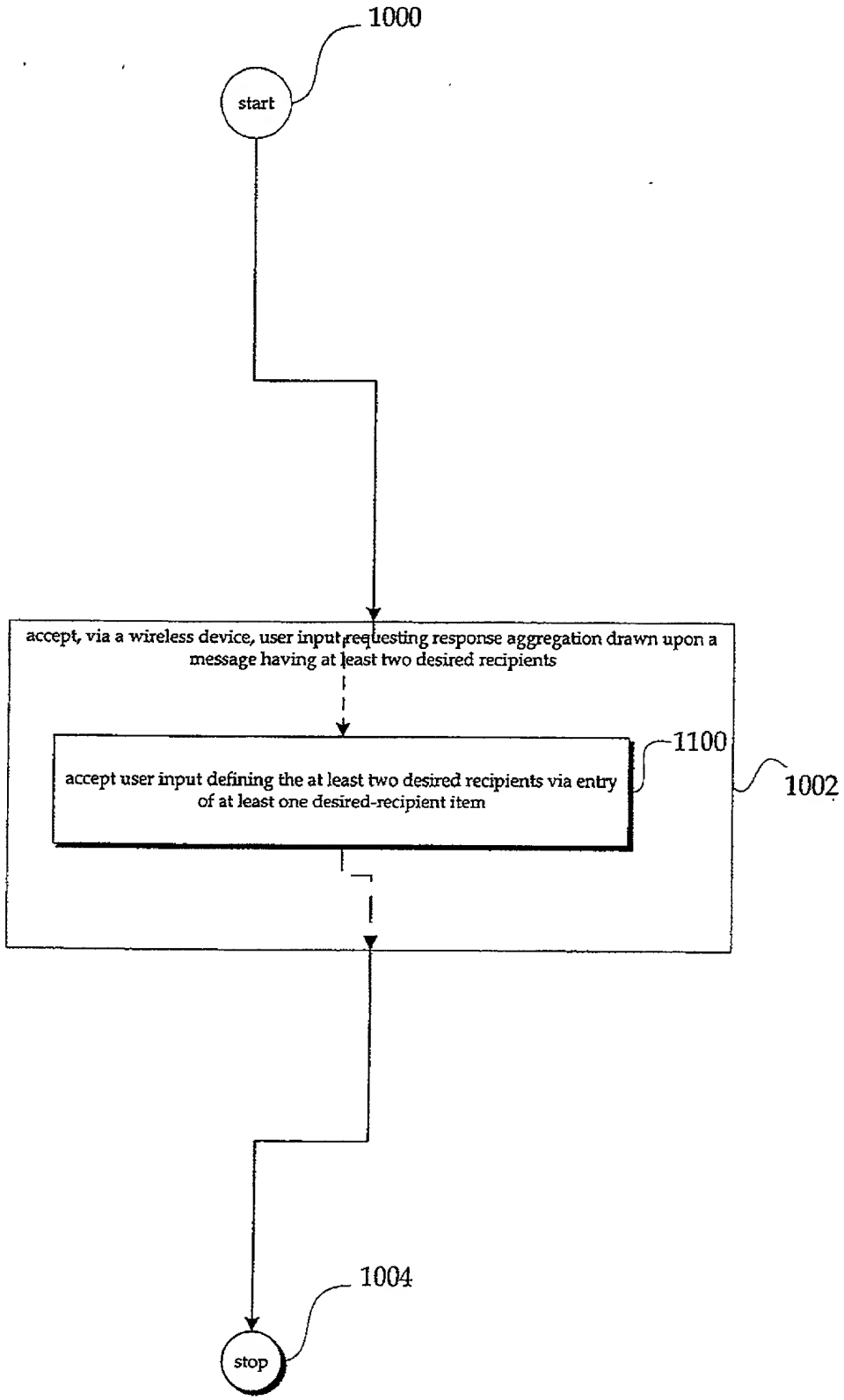
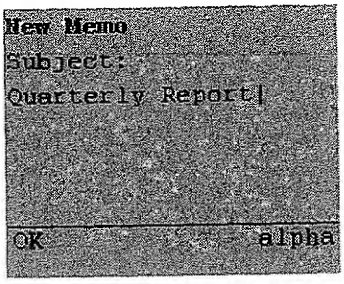
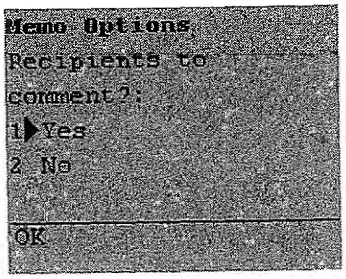

1000
start
accept, via a wireless device, user input requesting response aggregation drawn upon a message having at least two desired recipients
accept user input defining the at least two desired recipients via entry of at least one desired-recipient item
1100
1002
1004
stop

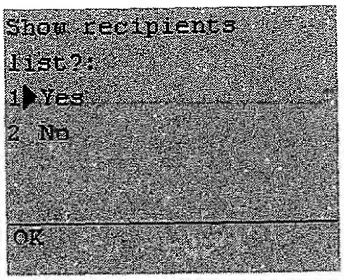
Fig.11A



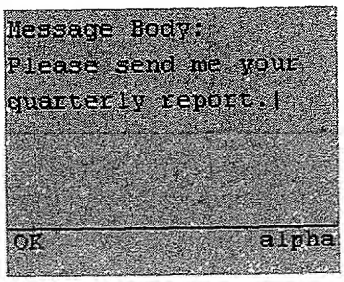
Subject of the message.



Recipients to Comment – This functionality allows the Recipients to make comments regarding the memo (meeting or event, as seen below). These comments are stored and can be viewed by the Sender, or if the Sender chooses, all Recipients may also view them.

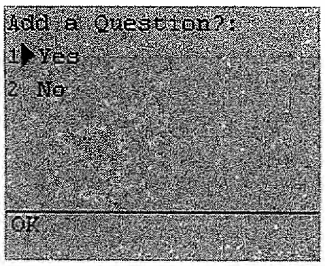


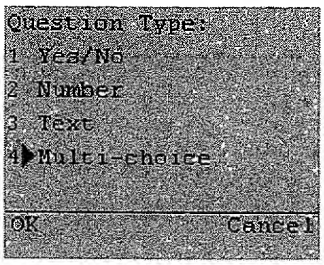
Show Recipient's List? – This functionality allows the Sender to specify whether the Recipient list is visible to all Recipients. The Sender has the ability to turn off this feature so that no other Recipient sees the Recipient list. This feature also controls whether the Recipients can see the Comments outlined above.

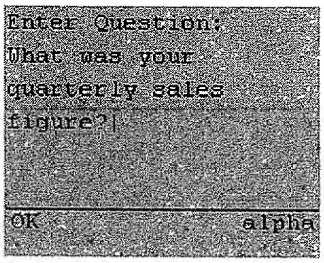


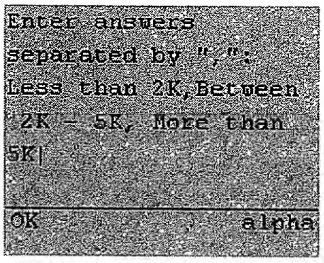
Message Body – This is the actual message text.

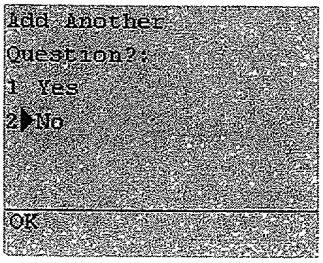
Fig.11B











Add a Question? – This allows the Sender to ask a question and gather responses. The questions have four possible answer formats:

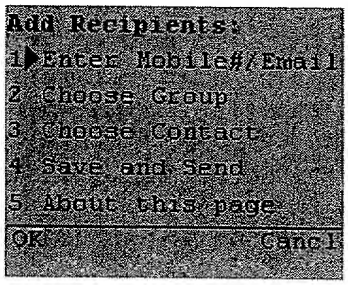
1. Yes/No
2. Number
3. Text
4. Multiple-Choice

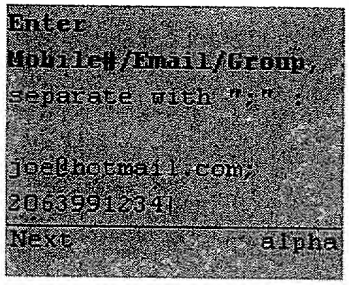
The Sender will be prompted to first select the question type, then to enter the question; and for multiple-choice questions, the Sender is prompted to enter a list of possible answers delimited by commas.

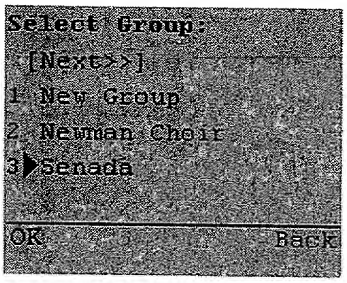
At the end of each question added, the Sender is asked if another question is to be added. This process repeats until the Sender chooses No.

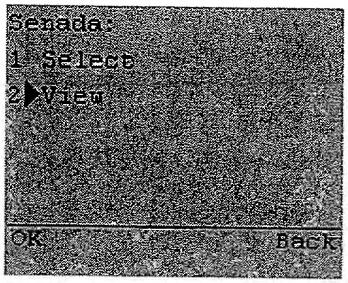
Express Mail No. EL755732636US Date of Deposit: May 30, 2001

Fig.11C







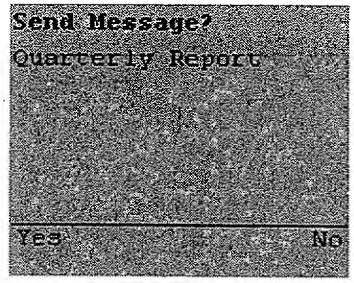


Add Recipients – The user can add a cell phone number (a phone number that has the ability to receive email or SMS messaging as defined further below) or email address by simply typing it in manually.

1. The user can choose a Group from their address book. These can be added from the Address book, which is outlined in Appendix A – Address Book.
2. The user can choose a Contact from their address book. These can be added from the Address book, which is outlined in Appendix A – Address Book.

Express Mail No. EL755732636US

Fig.11D



When finished adding Recipients, the function "Save and Send" will save the event and the system will prompt the user "Send Message <subject name>?"

1. Yes
2. No

If yes, the message is sent and the user gets a confirmation.

If no, the message is saved as a draft for later usage by the Sender.

After the message is sent, the Sender is shown a view of the message, which includes the default Card Graphic. The graphic card is formatted to be available to different devices based on the capabilities of the device: from a Macromedia Flash animation on a desktop browser, to a color graphic on a WinCE PDA, to a 1-bit black and white bitmap on a WAP phone.

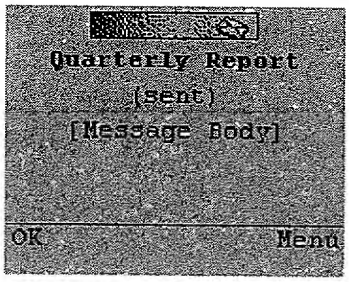


Fig.11E

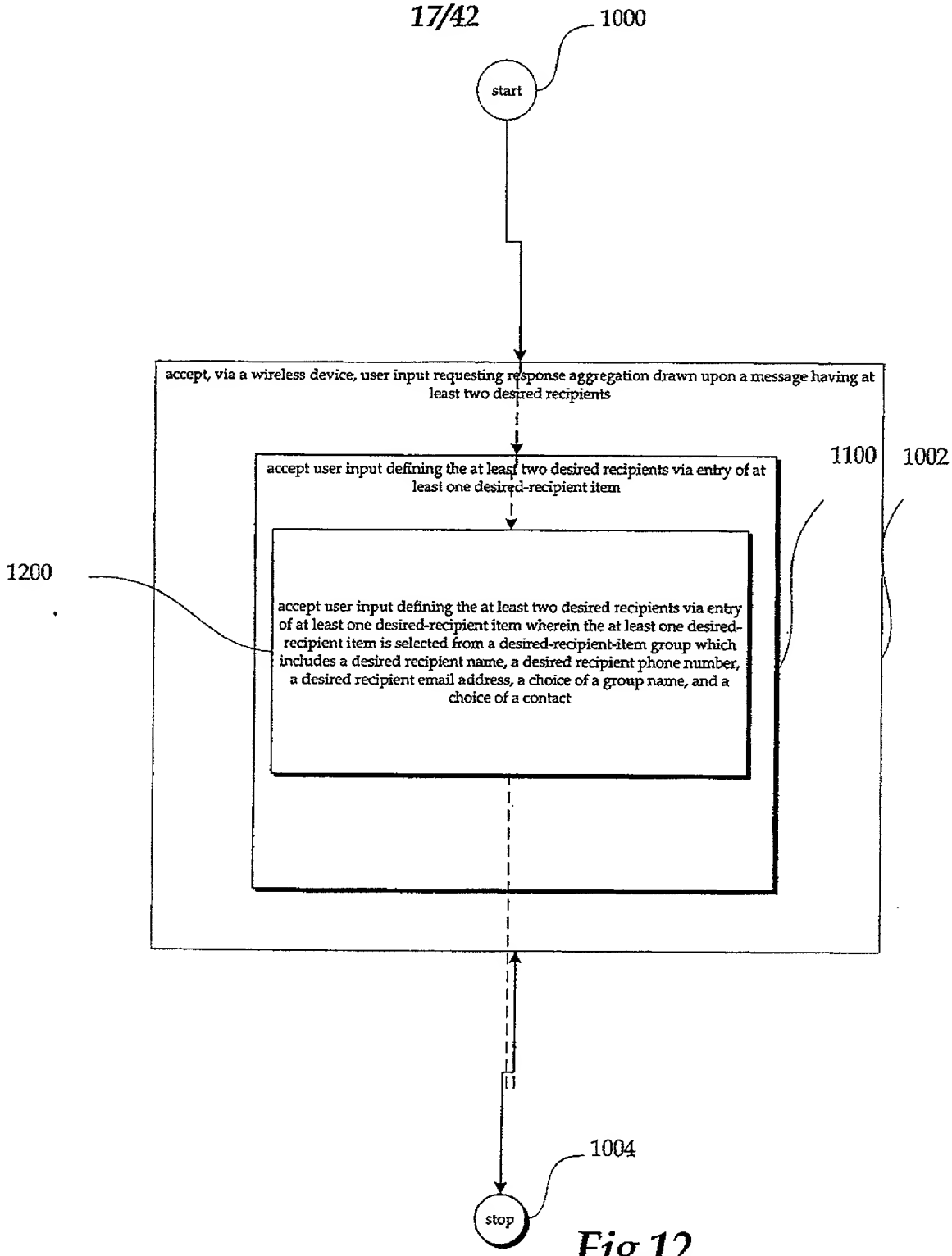

1000
start
accept, via a wireless device, user input requesting response aggregation drawn upon a message having at least two desired recipients
1100
1002
accept user input defining the at least two desired recipients via entry of at least one desired-recipient item
1200
accept user input defining the at least two desired recipients via entry of at least one desired-recipient item wherein the at least one desired-recipient item is selected from a desired-recipient-item group which includes a desired recipient name, a desired recipient phone number, a desired recipient email address, a choice of a group name, and a choice of a contact
1004
stop

Fig.12

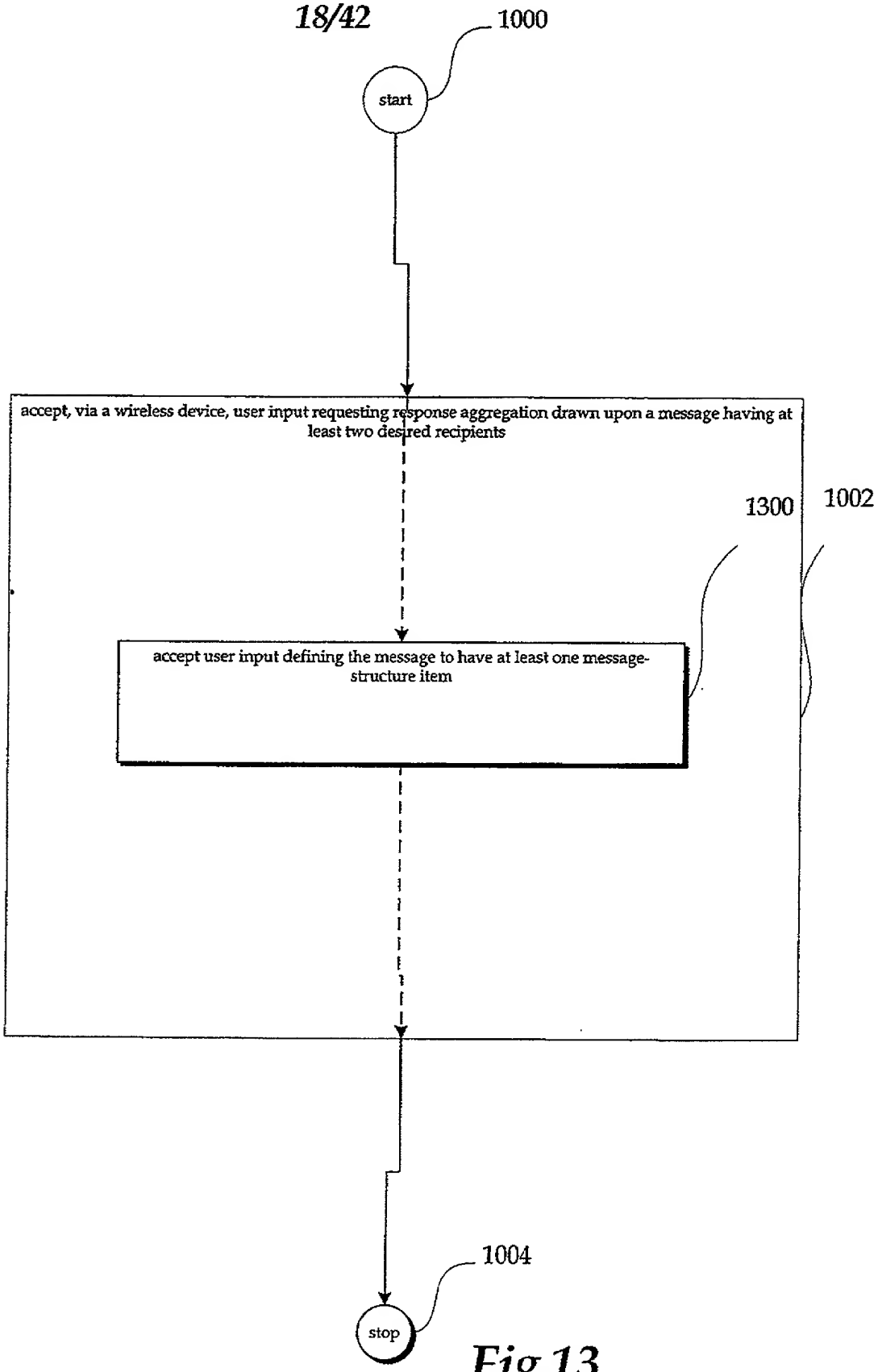

1000
start
accept, via a wireless device, user input requesting response aggregation drawn upon a message having at least two desired recipients
1300
1002
accept user input defining the message to have at least one message-structure item
1004
stop

Fig.13

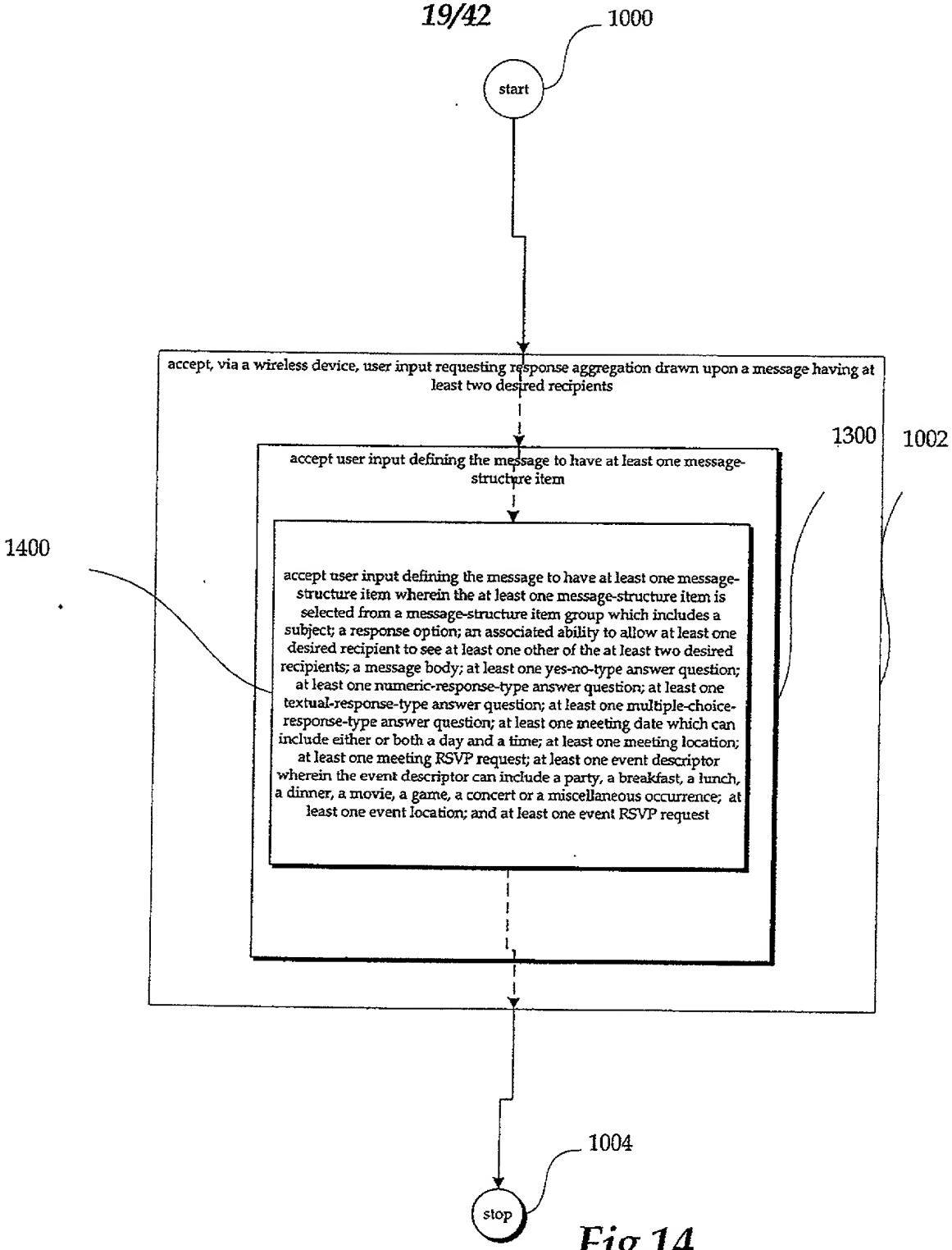

1000
start
accept, via a wireless device, user input requesting response aggregation drawn upon a message having at least two desired recipients
1300
1002
accept user input defining the message to have at least one message-structure item
1400
accept user input defining the message to have at least one message-structure item wherein the at least one message-structure item is selected from a message-structure item group which includes a subject; a response option; an associated ability to allow at least one desired recipient to see at least one other of the at least two desired recipients; a message body; at least one yes-no-type answer question; at least one numeric-response-type answer question; at least one textual-response-type answer question; at least one multiple-choice-response-type answer question; at least one meeting date which can include either or both a day and a time; at least one meeting location; at least one meeting RSVP request; at least one event descriptor wherein the event descriptor can include a party, a breakfast, a lunch, a dinner, a movie, a game, a concert or a miscellaneous occurrence; at least one event location; and at least one event RSVP request
1004
stop

Fig.14

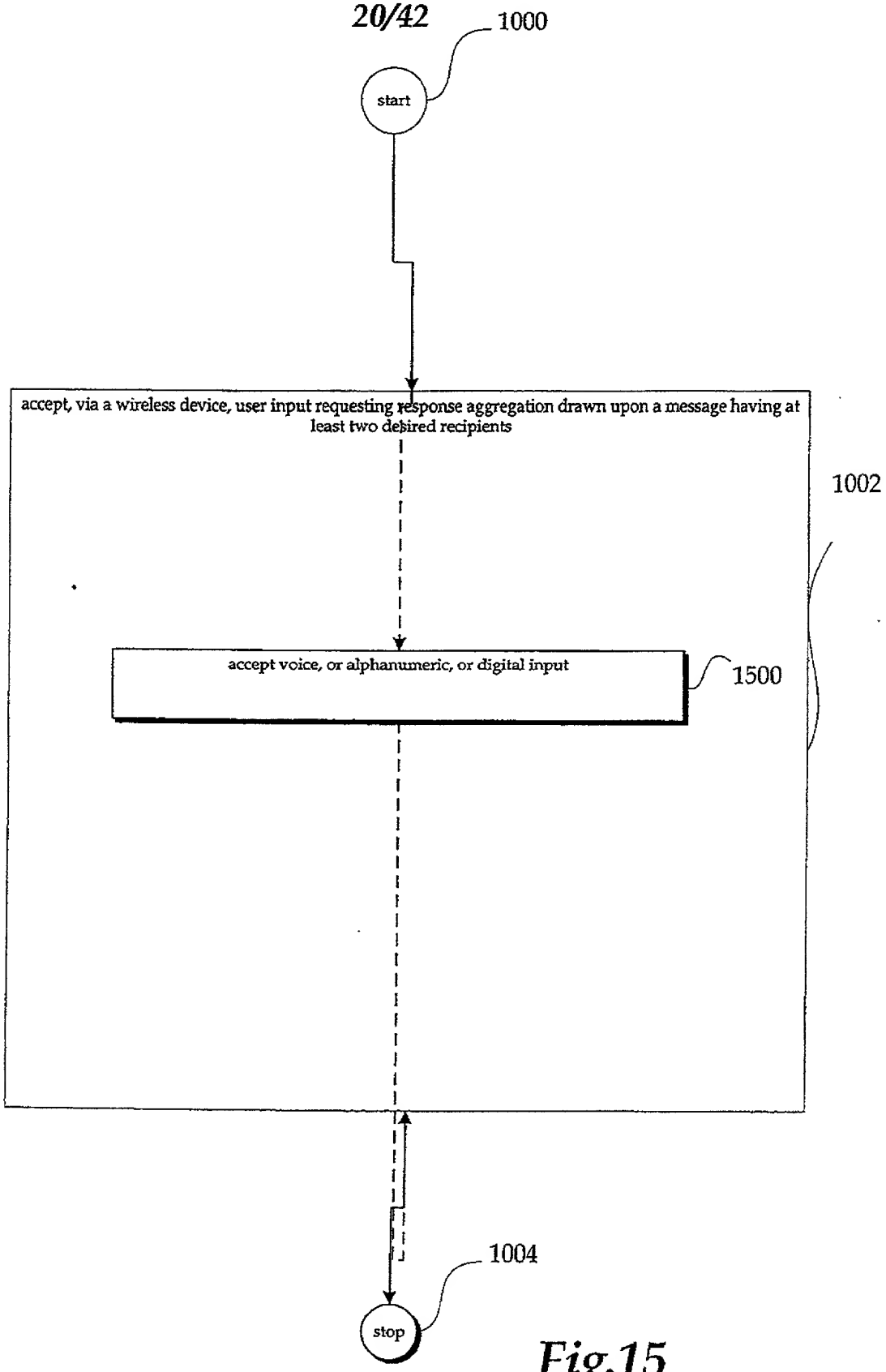

1000
start
accept, via a wireless device, user input requesting response aggregation drawn upon a message having at least two desired recipients
1002
accept voice, or alphanumeric, or digital input
1500
1004
stop

Fig.15

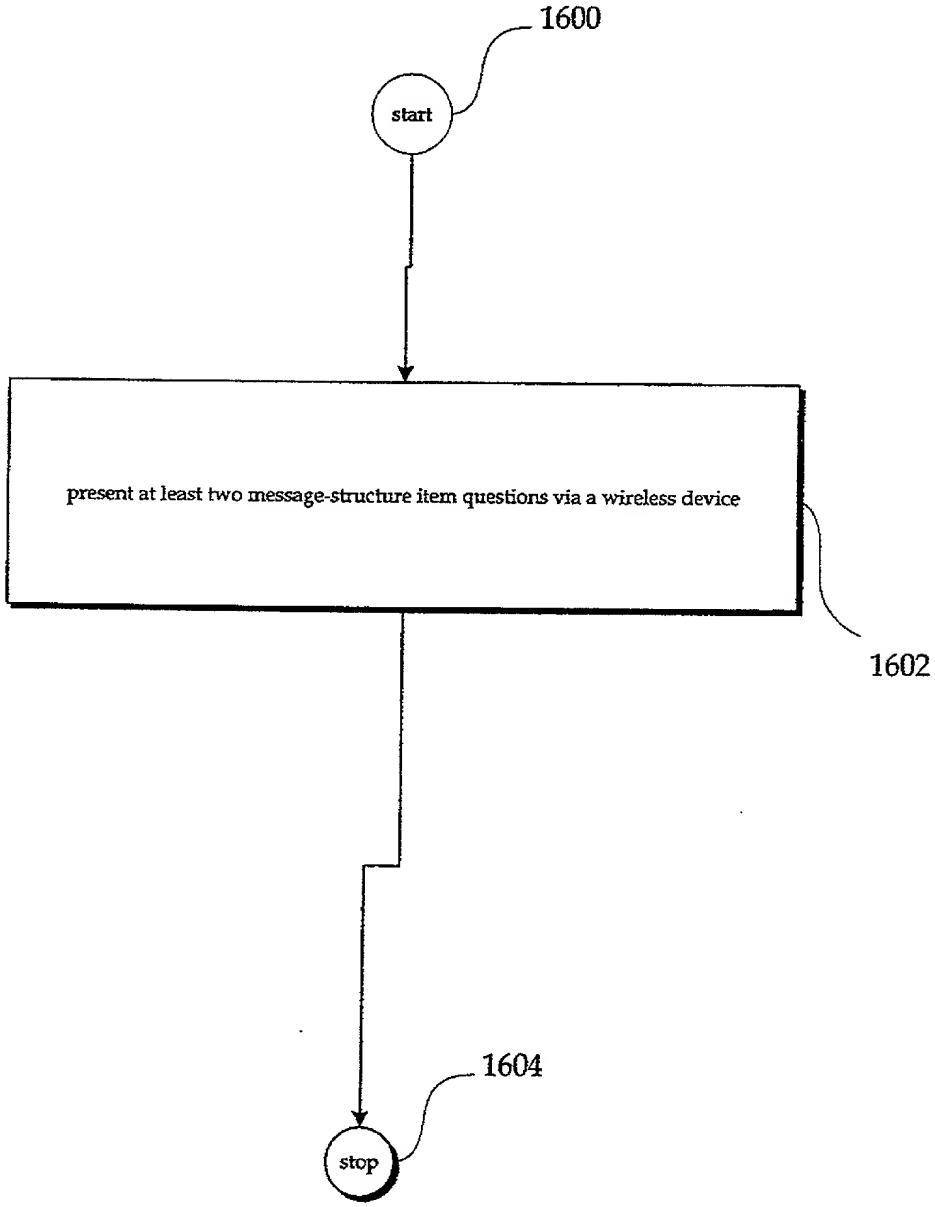

1600
start
present at least two message-structure item questions via a wireless device
1602
1604
stop

Fig.16

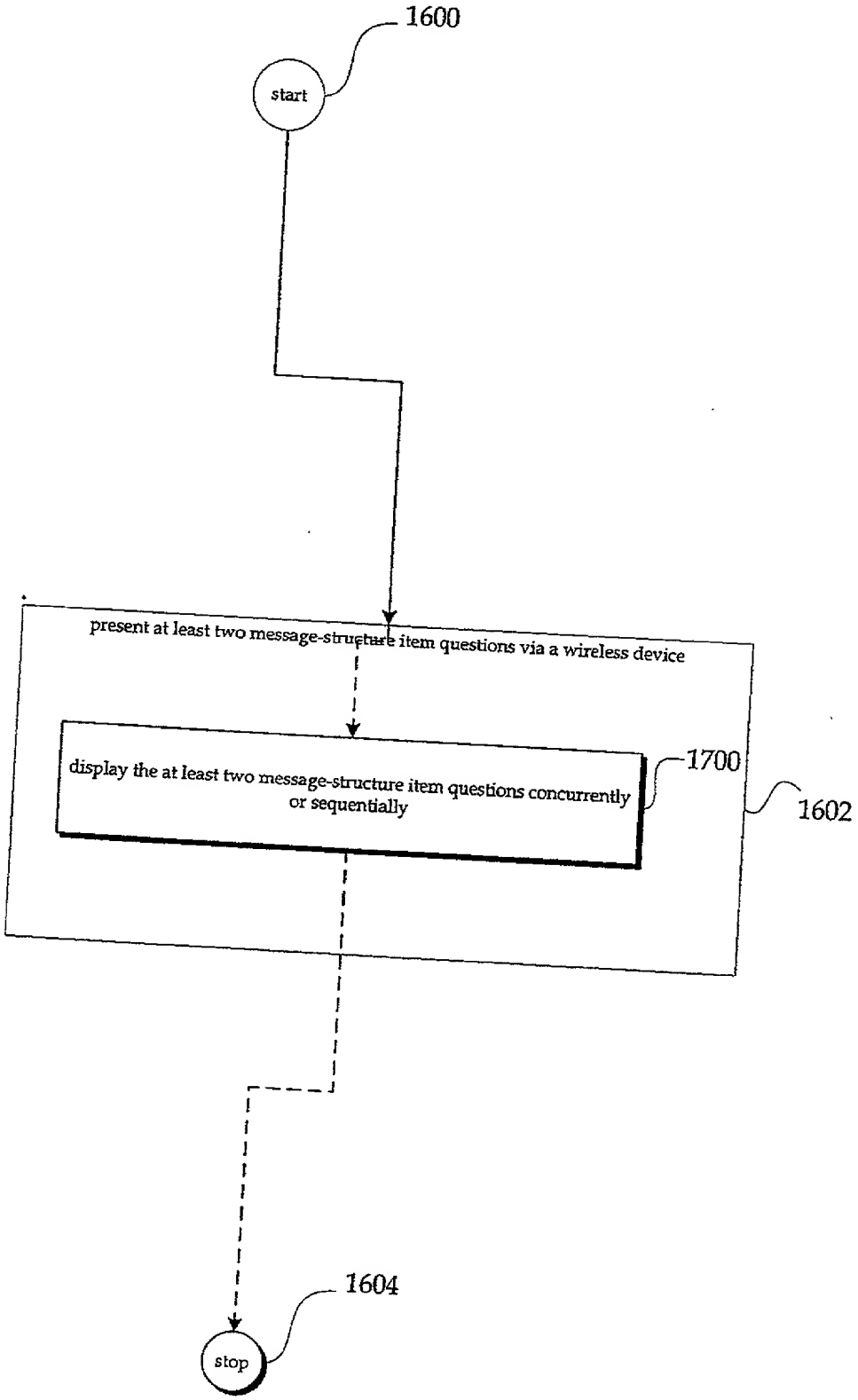

1600
start
present at least two message-structure item questions via a wireless device
display the at least two message-structure item questions concurrently or sequentially
1700
1602
1604
stop

Fig.17

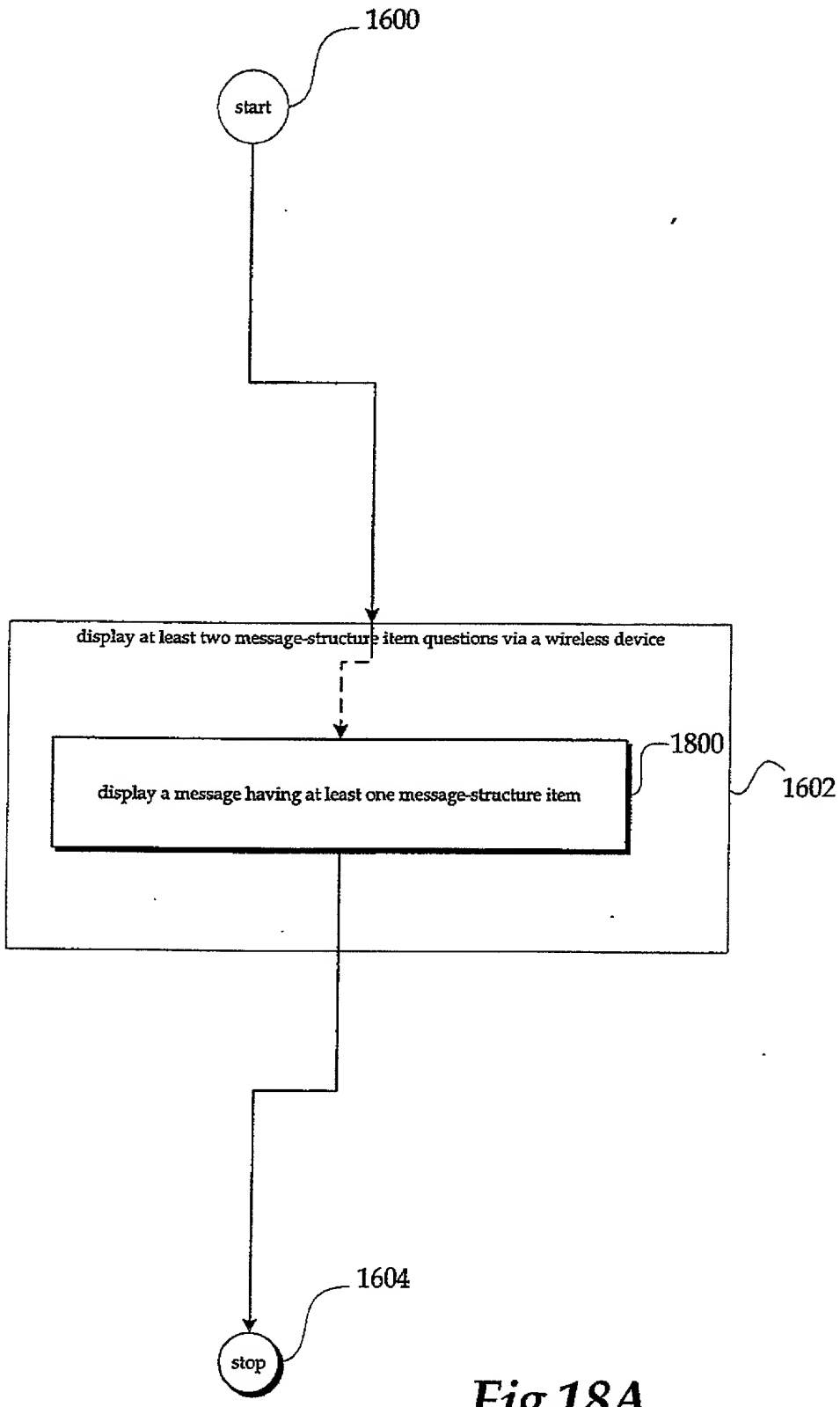
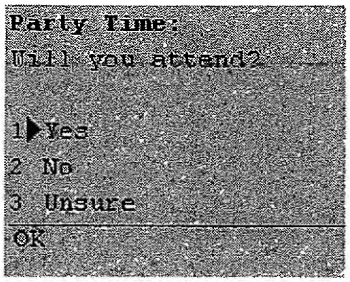
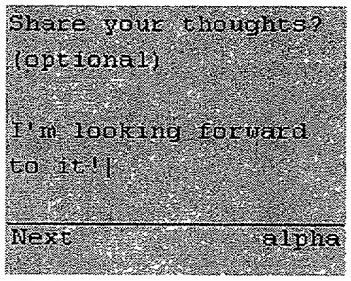

1600
start
display at least two message-structure item questions via a wireless device
display a message having at least one message-structure item
1800
1602
1604
stop

Fig.18A

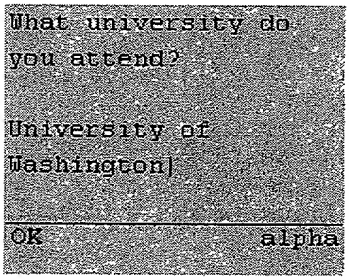
Recipient can view a Managed Message, and can respond by clicking on the soft key labeled "Respond".



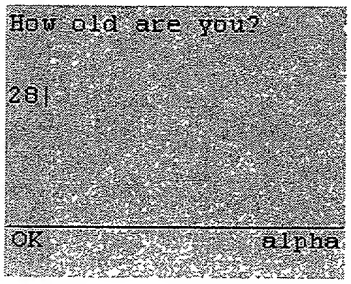
An example of a Recipient's view of a RSVP structured element.



An example of a Recipient's view of a Comments structured element.

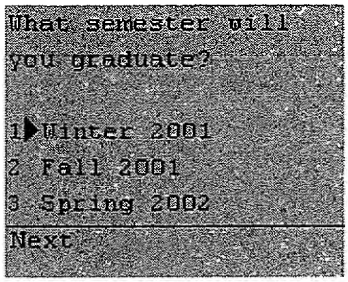


An example of a Recipient's view of a Text Question structured element.

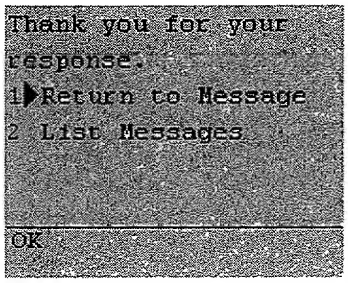


An example of a Recipient's view of a Numeric Question element.

Fig.18B



An example of a Recipient's view of a Multiple-Choice Question element.



After a Recipient has finished responding, he/she has the choice of returning to the message details, or to a list of other received messages.

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Fig.18C

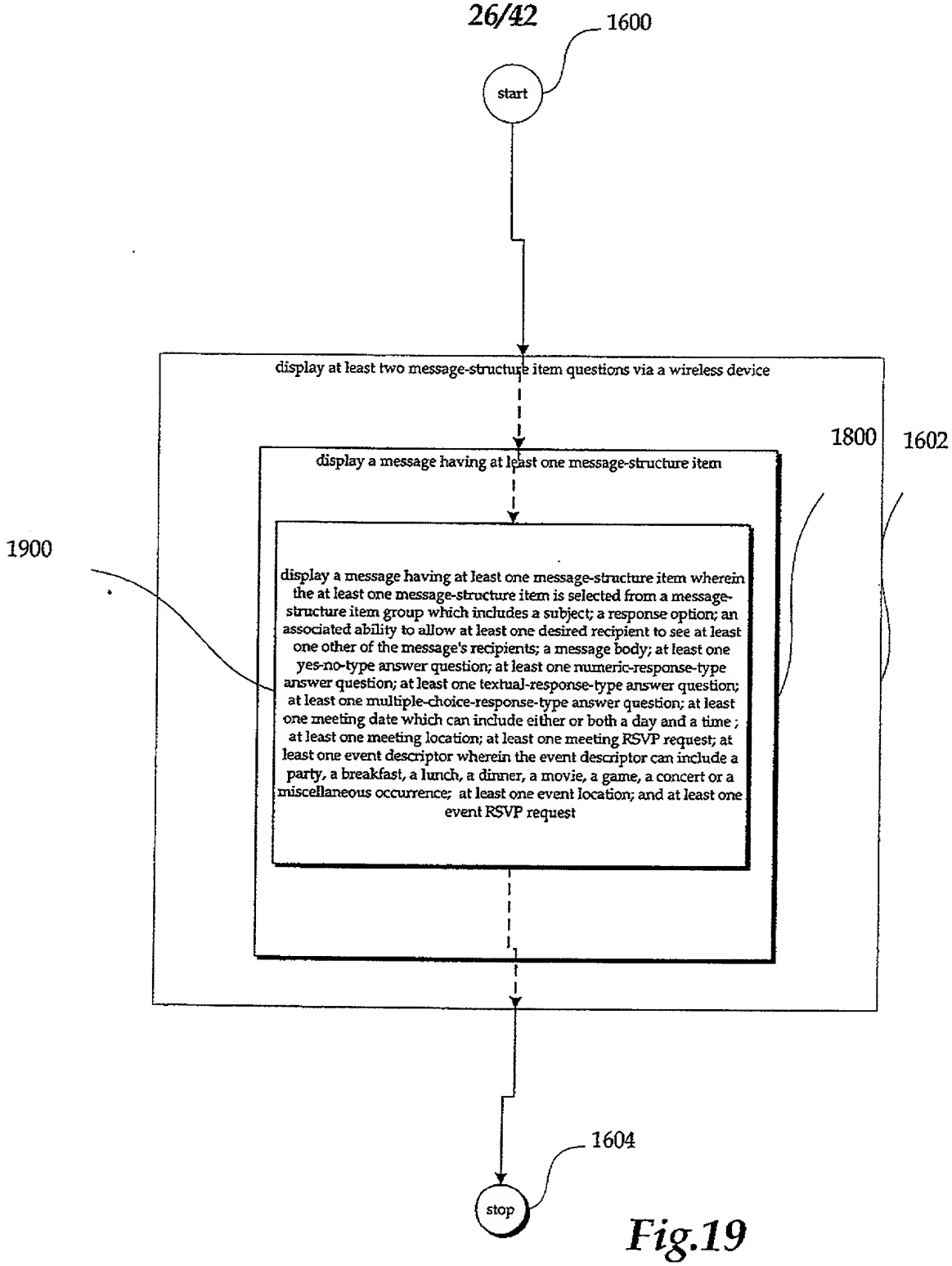
1600
start
display at least two message-structure item questions via a wireless device
1800
1602
display a message having at least one message-structure item
1900
display a message having at least one message-structure item wherein the at least one message-structure item is selected from a message-structure item group which includes a subject; a response option; an associated ability to allow at least one desired recipient to see at least one other of the message's recipients; a message body; at least one yes-no-type answer question; at least one numeric-response-type answer question; at least one textual-response-type answer question; at least one multiple-choice-response-type answer question; at least one meeting date which can include either or both a day and a time ; at least one meeting location; at least one meeting RSVP request; at least one event descriptor wherein the event descriptor can include a party, a breakfast, a lunch, a dinner, a movie, a game, a concert or a miscellaneous occurrence; at least one event location; and at least one event RSVP request
1604
stop

Fig.19

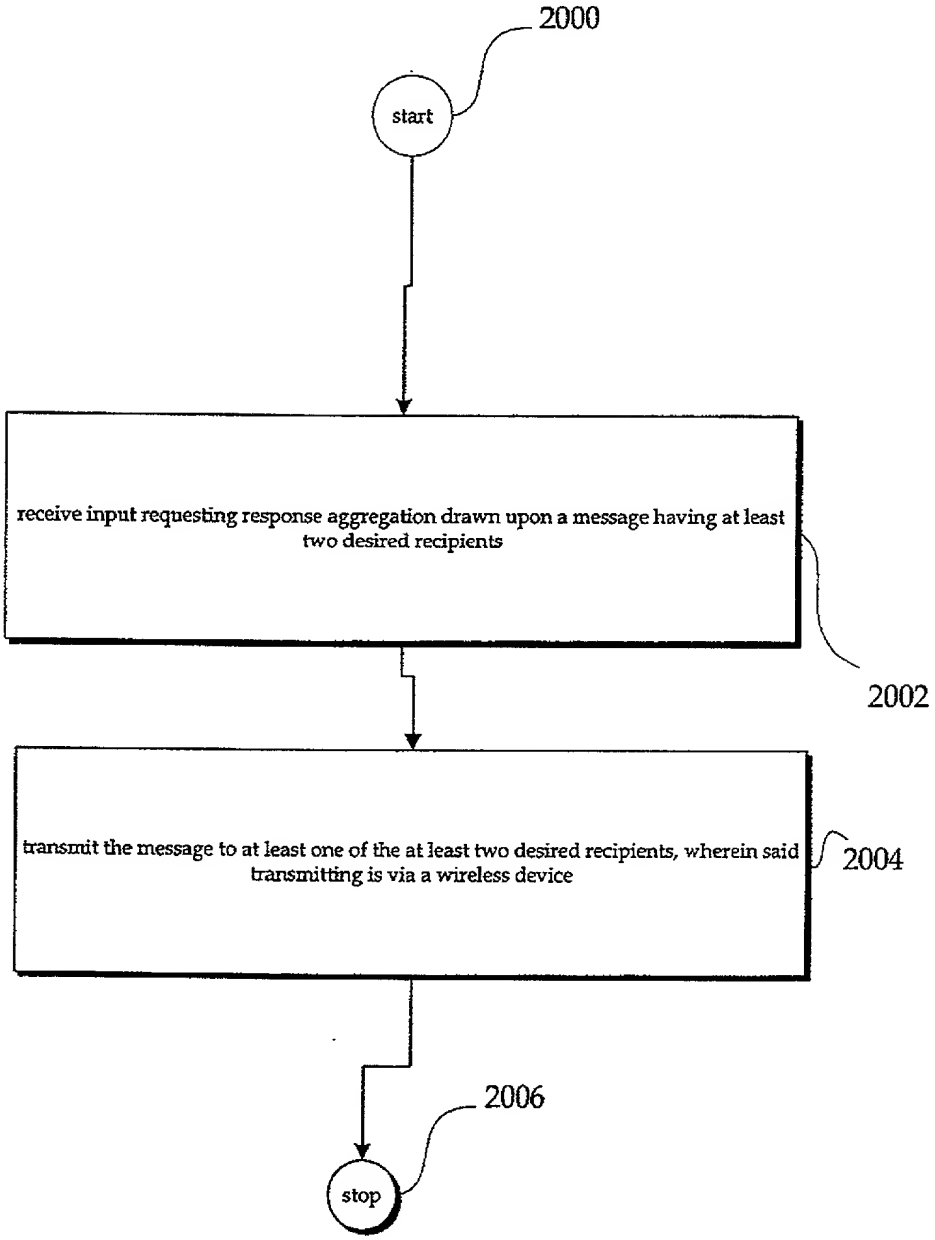
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via a wireless device
2004
2006
stop

Fig.20

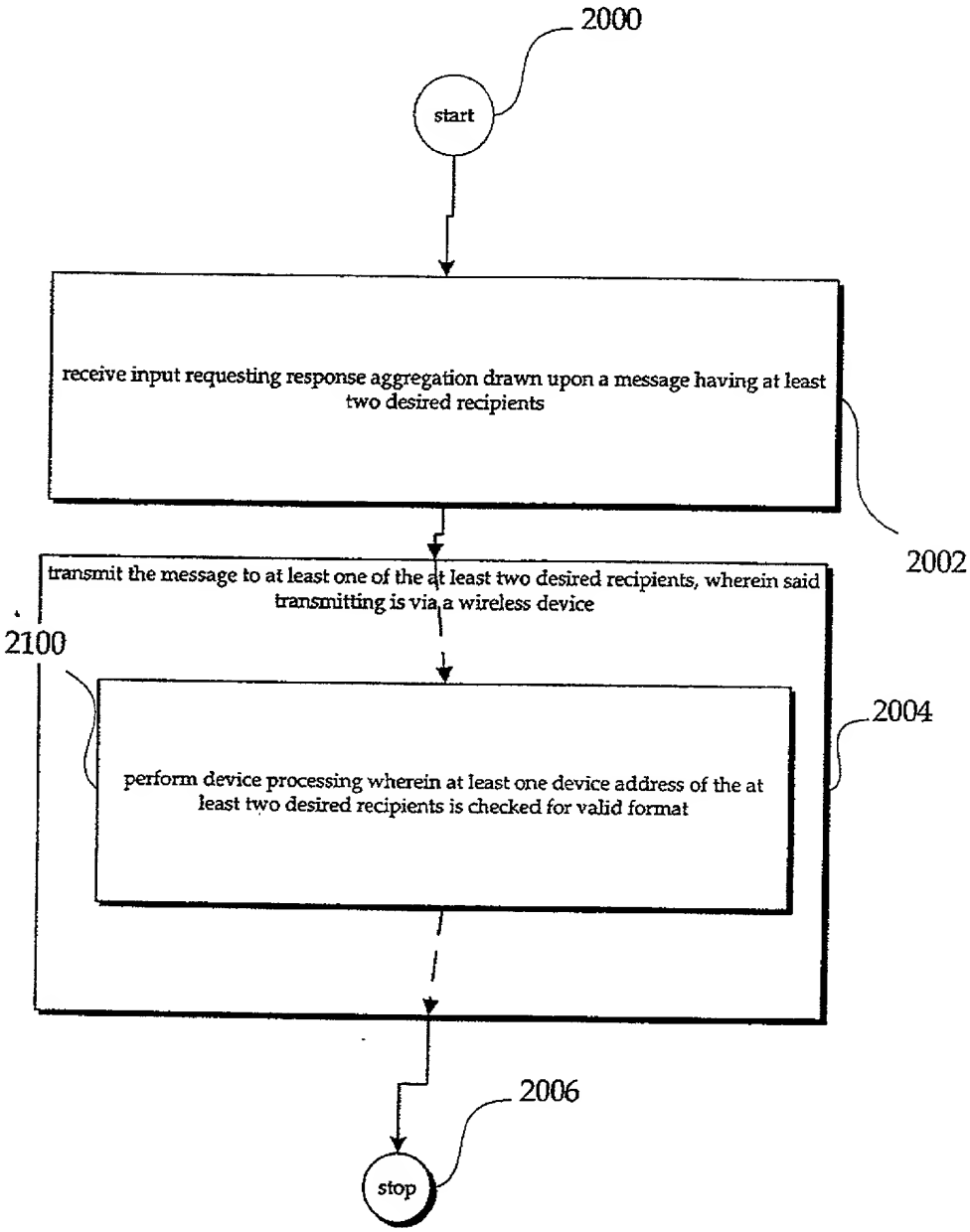
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via a wireless device
2100
perform device processing wherein at least one device address of the at least two desired recipients is checked for valid format
2004
2006
stop

Fig.21

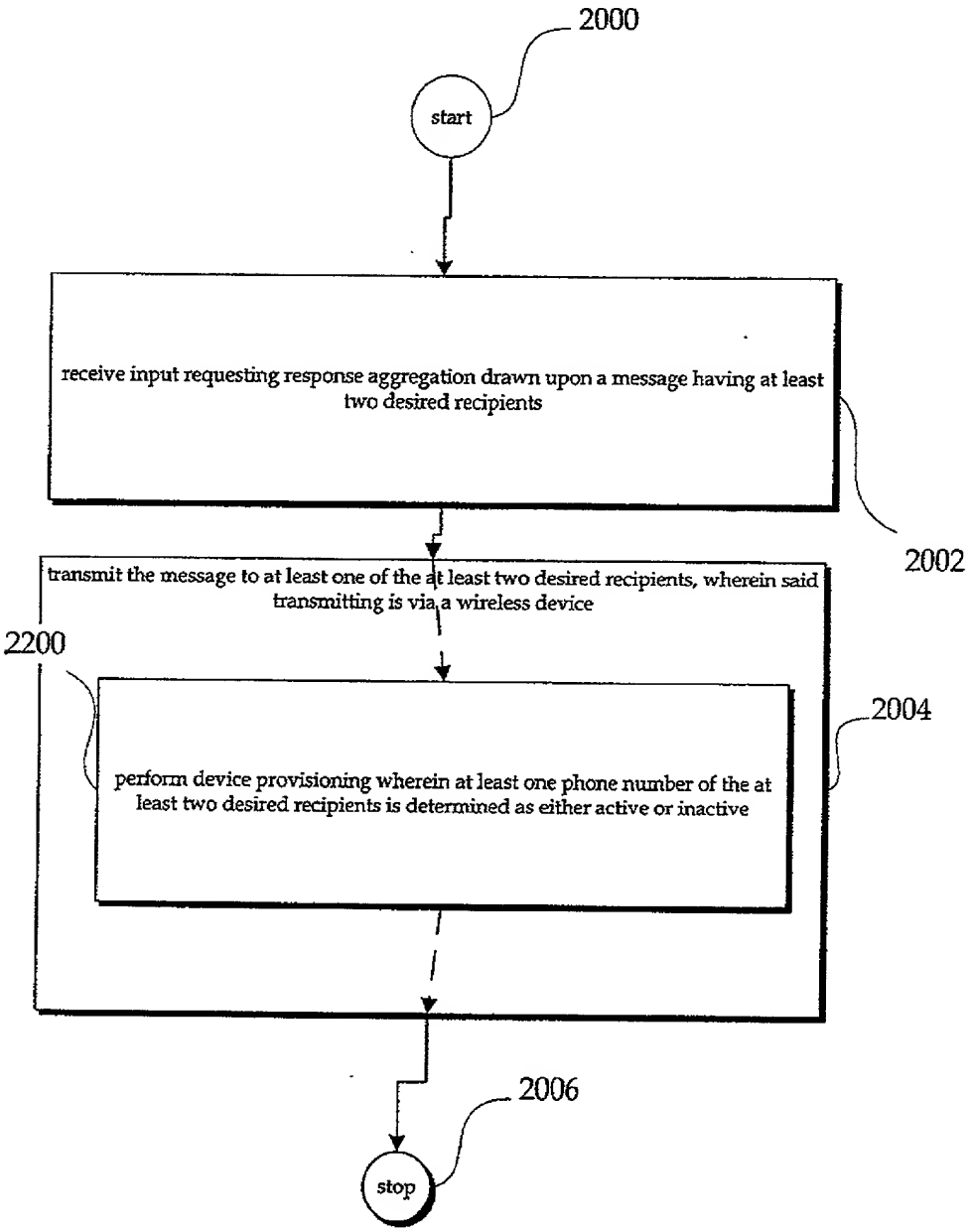
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via a wireless device
2200
perform device provisioning wherein at least one phone number of the at least two desired recipients is determined as either active or inactive
2004
2006
stop

Fig.22

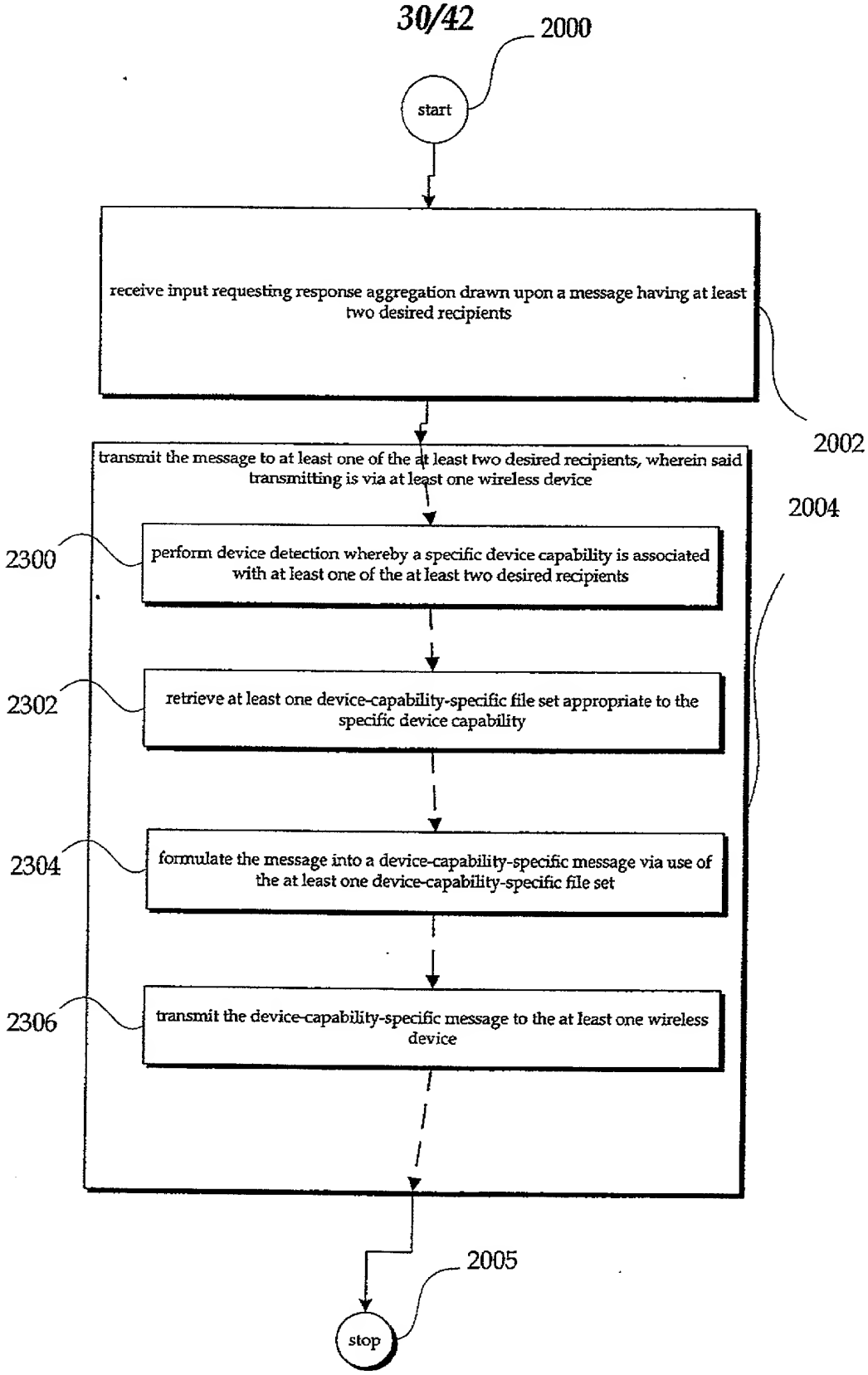
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2004
2300
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
2302
retrieve at least one device-capability-specific file set appropriate to the specific device capability
2304
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
2306
transmit the device-capability-specific message to the at least one wireless device
2005
stop

Fig.23

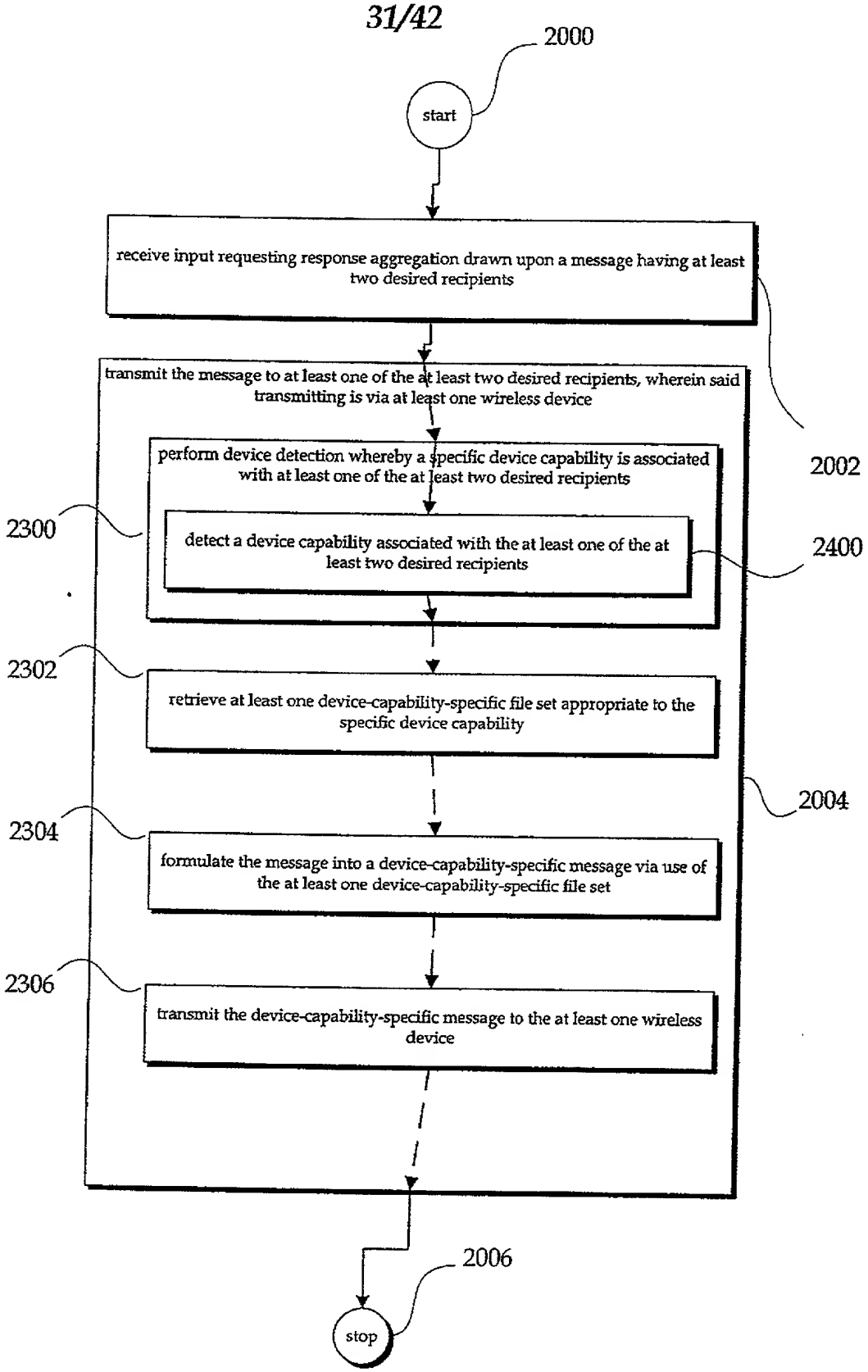
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2002
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
2300
detect a device capability associated with the at least one of the at least two desired recipients
2400
2302
retrieve at least one device-capability-specific file set appropriate to the specific device capability
2004
2304
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
2306
transmit the device-capability-specific message to the at least one wireless device
2006
stop

Fig.24

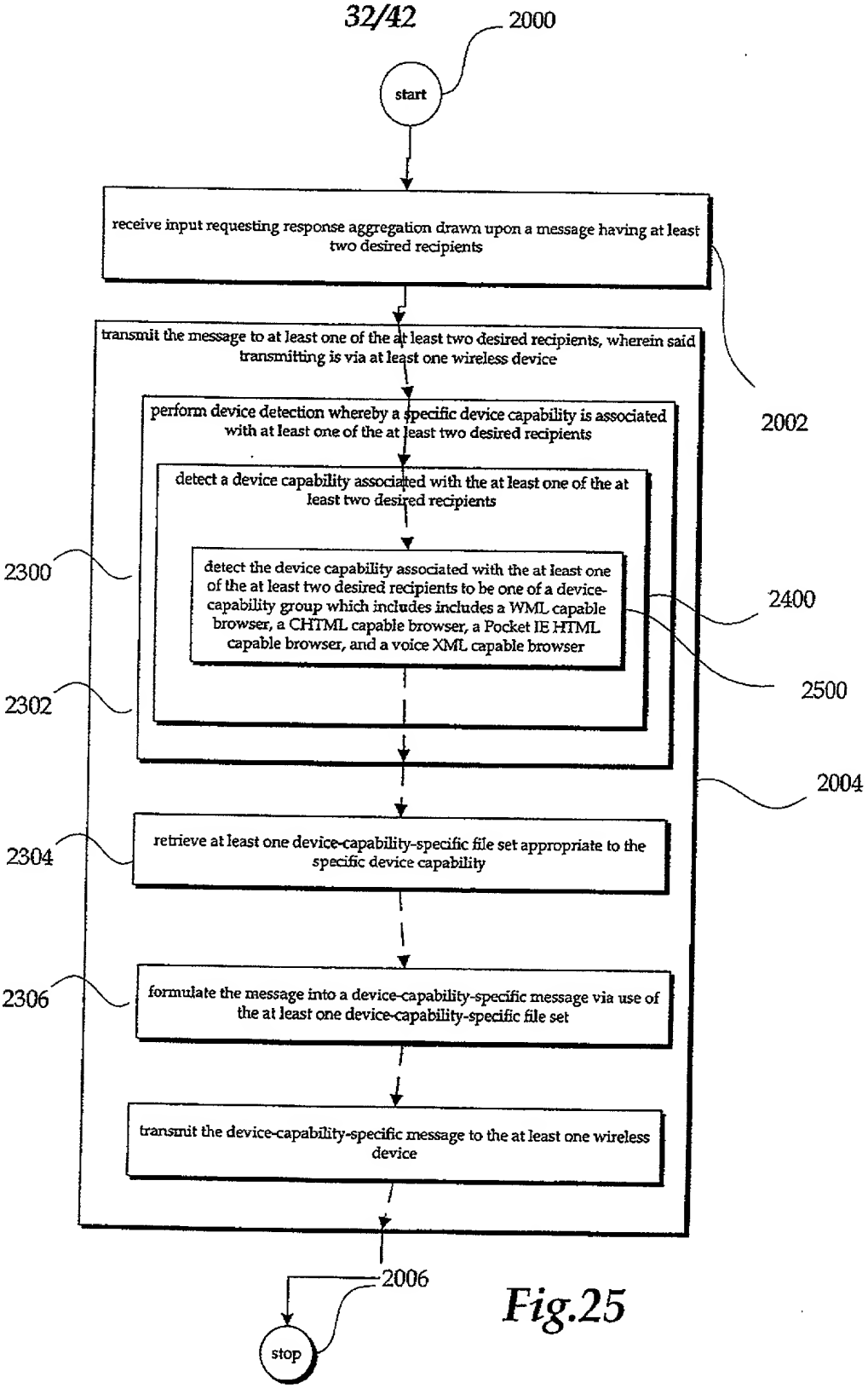
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2002
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
detect a device capability associated with the at least one of the at least two desired recipients
2300
detect the device capability associated with the at least one of the at least two desired recipients to be one of a device-capability group which includes includes a WML capable browser, a CHTML capable browser, a Pocket IE HTML capable browser, and a voice XML capable browser
2400
2500
2302
2004
retrieve at least one device-capability-specific file set appropriate to the specific device capability
2304
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
2306
transmit the device-capability-specific message to the at least one wireless device
2006
stop

Fig.25

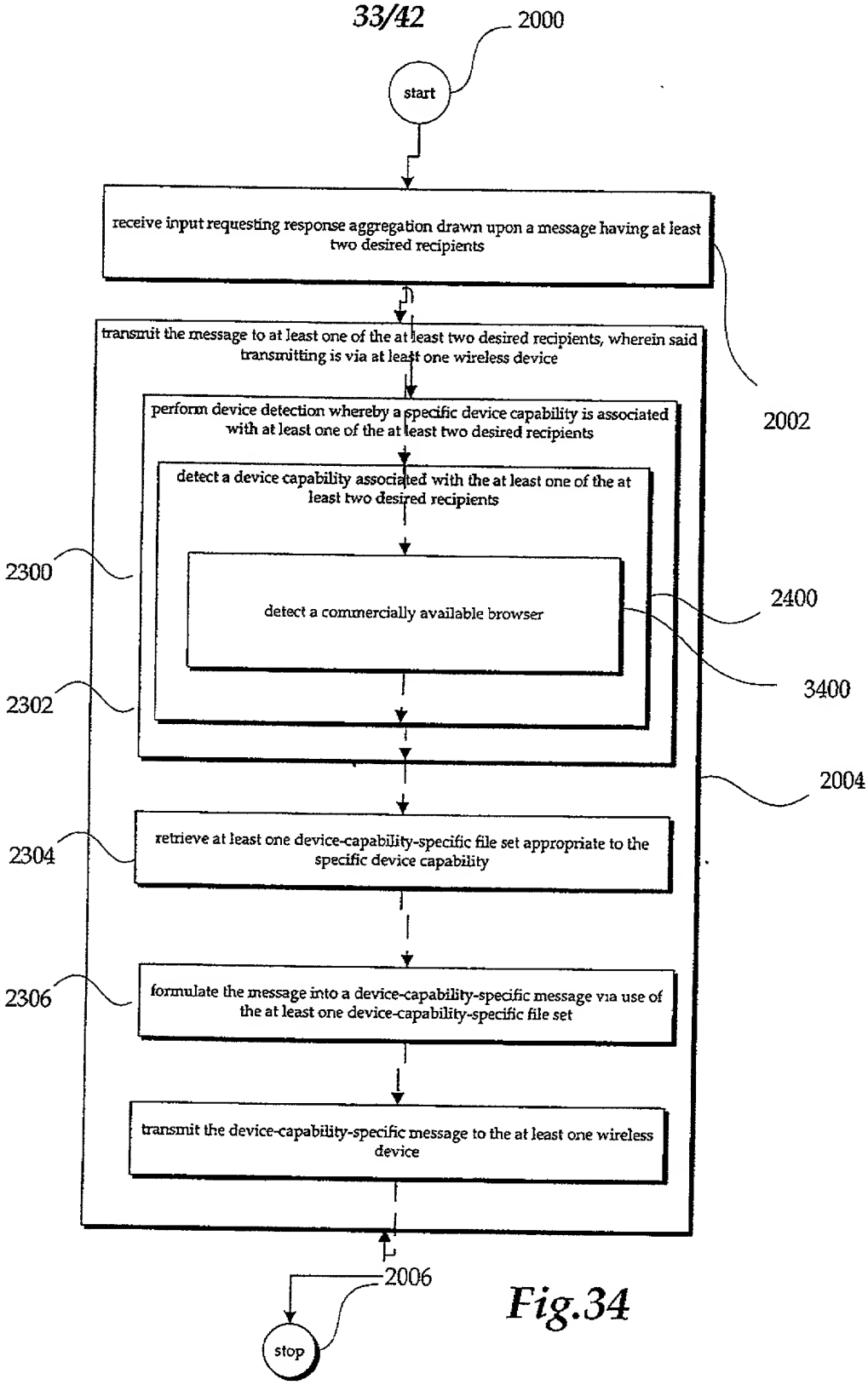
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2002
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
detect a device capability associated with the at least one of the at least two desired recipients
2300
detect a commercially available browser
2400
3400
2302
2004
retrieve at least one device-capability-specific file set appropriate to the specific device capability
2304
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
2306
transmit the device-capability-specific message to the at least one wireless device
2006
stop

Fig.34

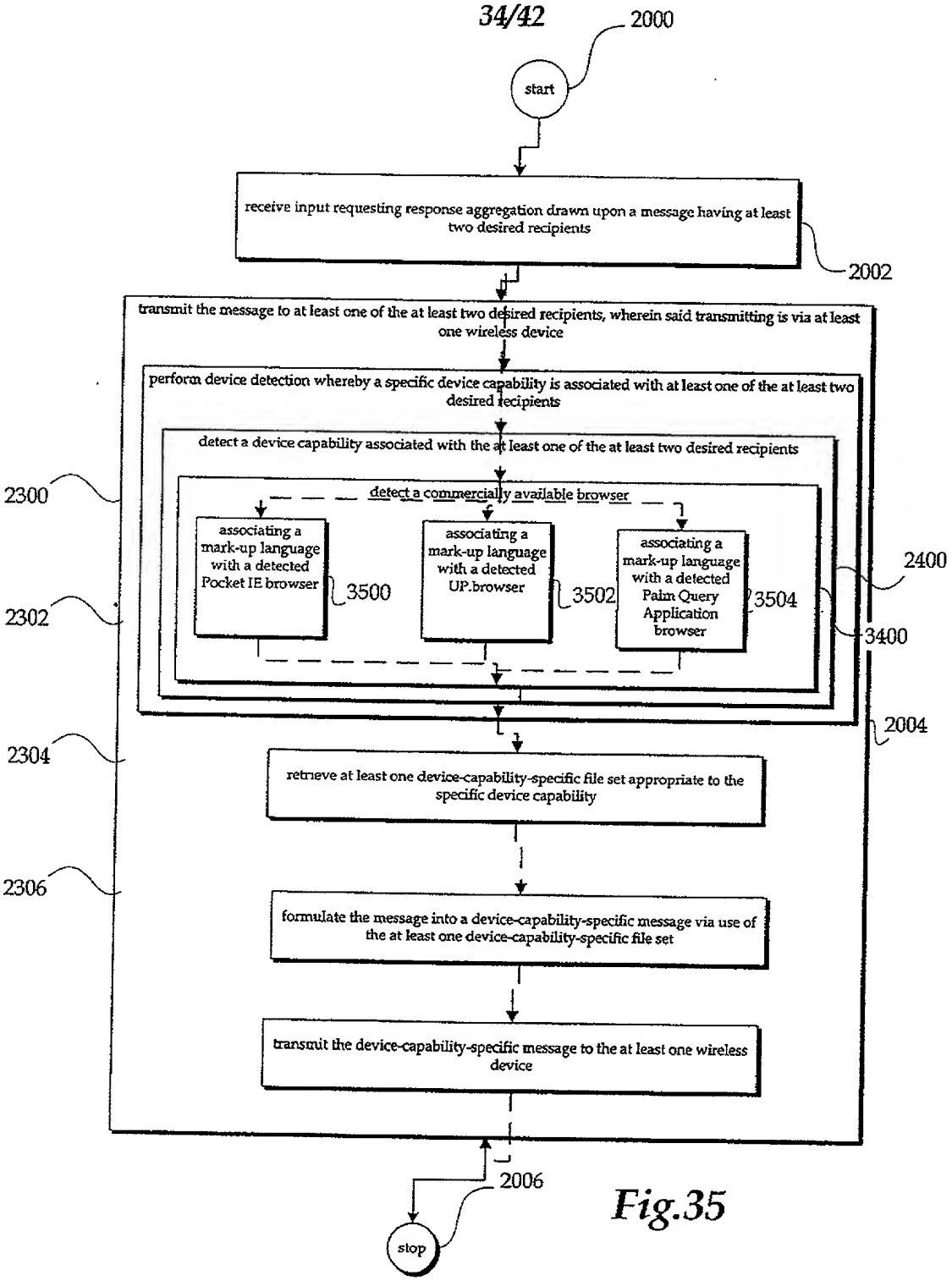
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
detect a device capability associated with the at least one of the at least two desired recipients
detect a commercially available browser
associating a mark-up language with a detected Pocket IE browser
3500
associating a mark-up language with a detected UP.browser
3502
associating a mark-up language with a detected Palm Query Application browser
3504
2400
3400
2004
2300
2302
2304
2306
retrieve at least one device-capability-specific file set appropriate to the specific device capability
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
transmit the device-capability-specific message to the at least one wireless device
2006
stop

Fig.35

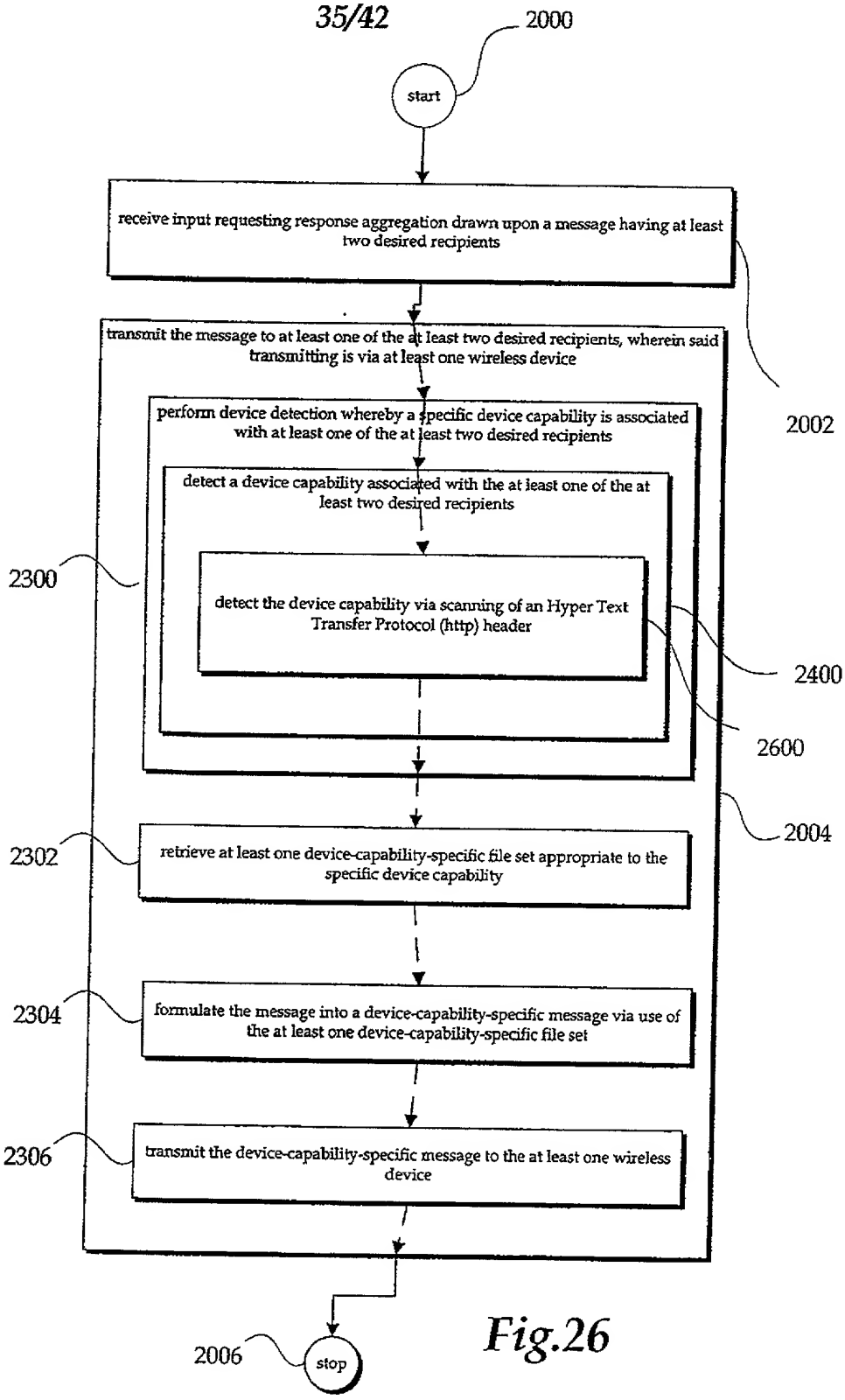
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2002
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
detect a device capability associated with the at least one of the at least two desired recipients
2300
detect the device capability via scanning of an Hyper Text Transfer Protocol (http) header
2400
2600
2004
2302
retrieve at least one device-capability-specific file set appropriate to the specific device capability
2304
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
2306
transmit the device-capability-specific message to the at least one wireless device
2006
stop

Fig.26

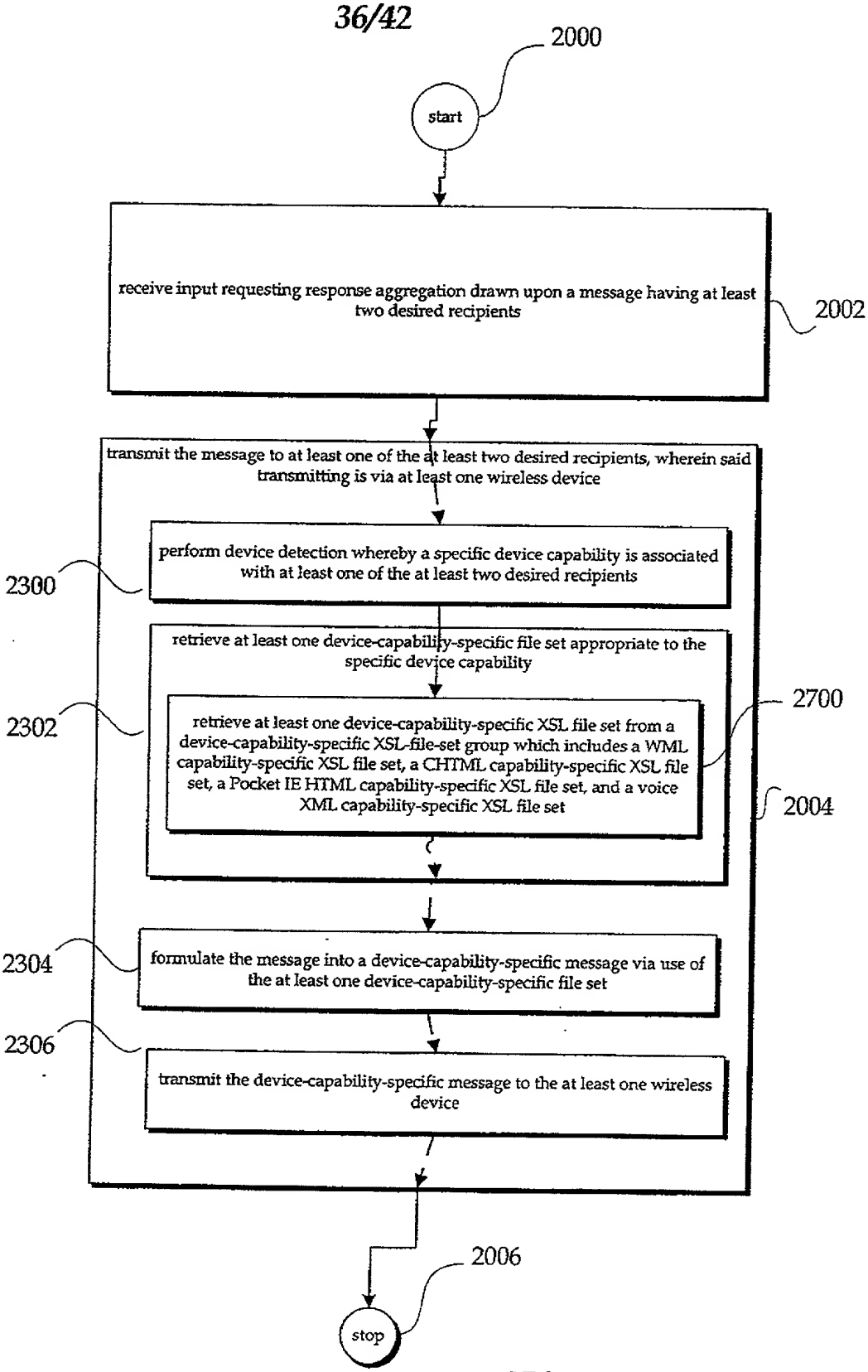
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
2300
retrieve at least one device-capability-specific file set appropriate to the specific device capability
2302
retrieve at least one device-capability-specific XSL file set from a device-capability-specific XSL-file-set group which includes a WML capability-specific XSL file set, a CHTML capability-specific XSL file set, a Pocket IE HTML capability-specific XSL file set, and a voice XML capability-specific XSL file set
2700
2004
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
2304
transmit the device-capability-specific message to the at least one wireless device
2306
2006
stop

Fig.27

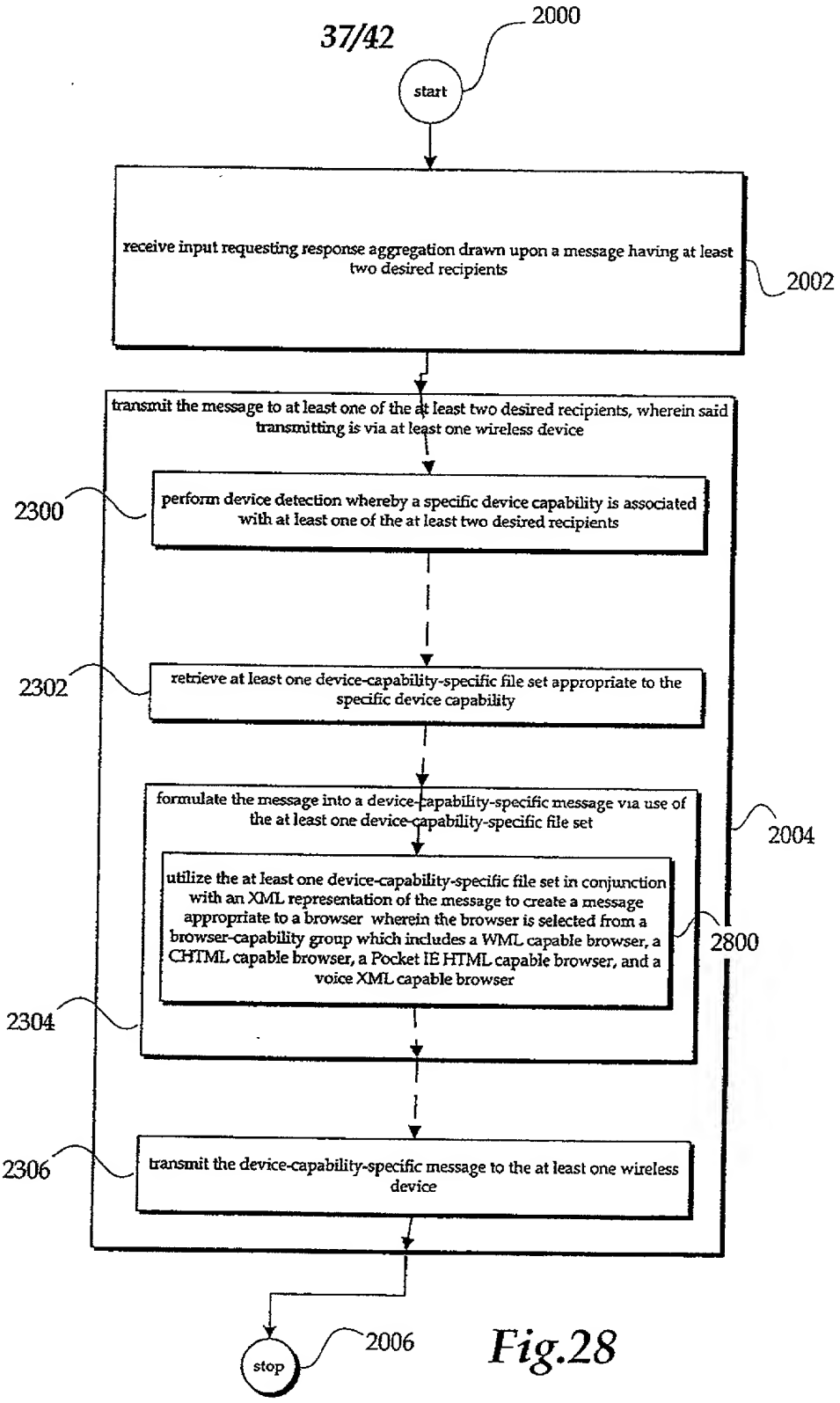
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2300
perform device detection whereby a specific device capability is associated with at least one of the at least two desired recipients
2302
retrieve at least one device-capability-specific file set appropriate to the specific device capability
formulate the message into a device-capability-specific message via use of the at least one device-capability-specific file set
2004
utilize the at least one device-capability-specific file set in conjunction with an XML representation of the message to create a message appropriate to a browser wherein the browser is selected from a browser-capability group which includes a WML capable browser, a CHTML capable browser, a Pocket IE HTML capable browser, and a voice XML capable browser
2800
2304
2306
transmit the device-capability-specific message to the at least one wireless device
stop
2006

Fig.28

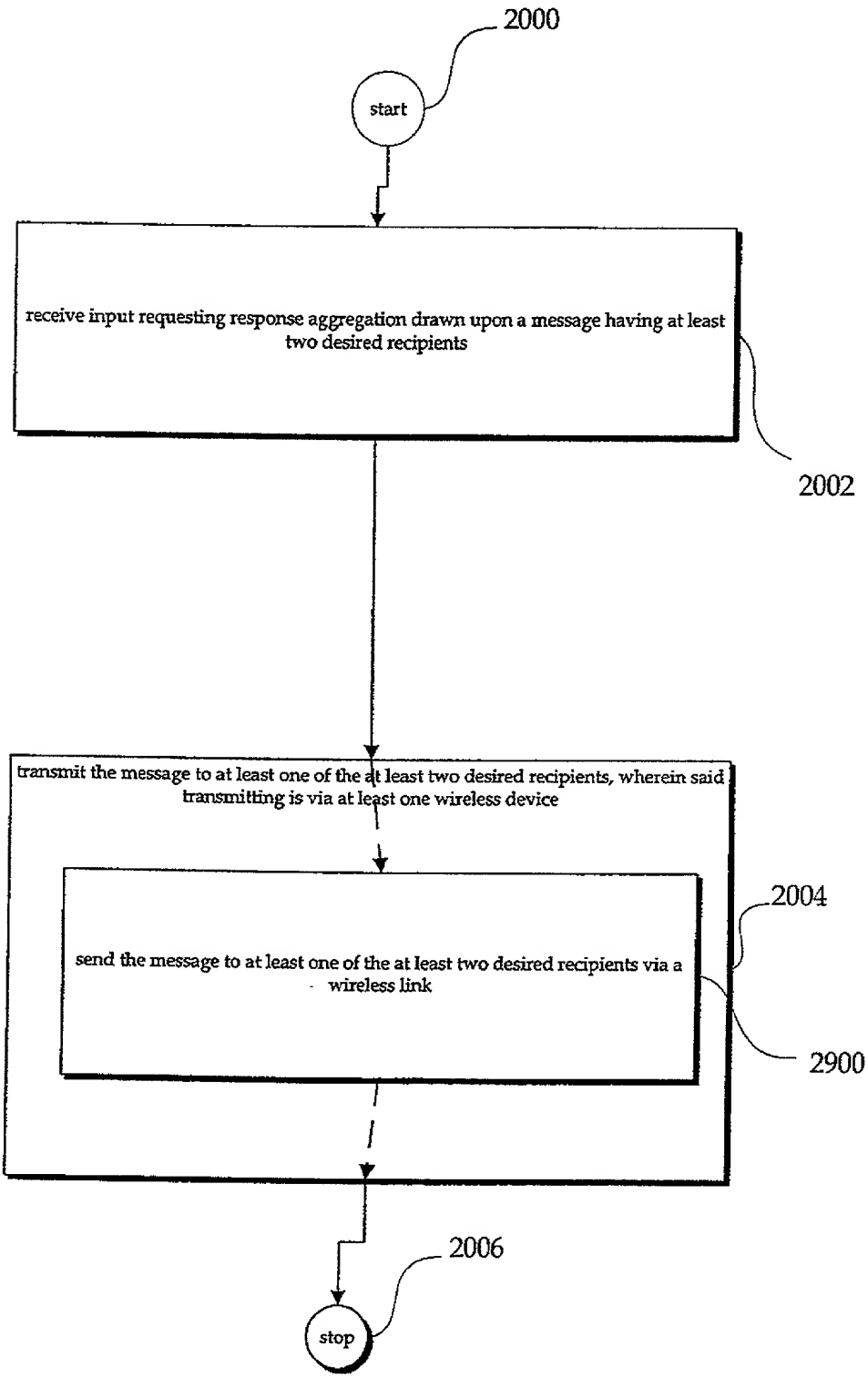
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
send the message to at least one of the at least two desired recipients via a wireless link
2004
2900
2006
stop

Fig.29

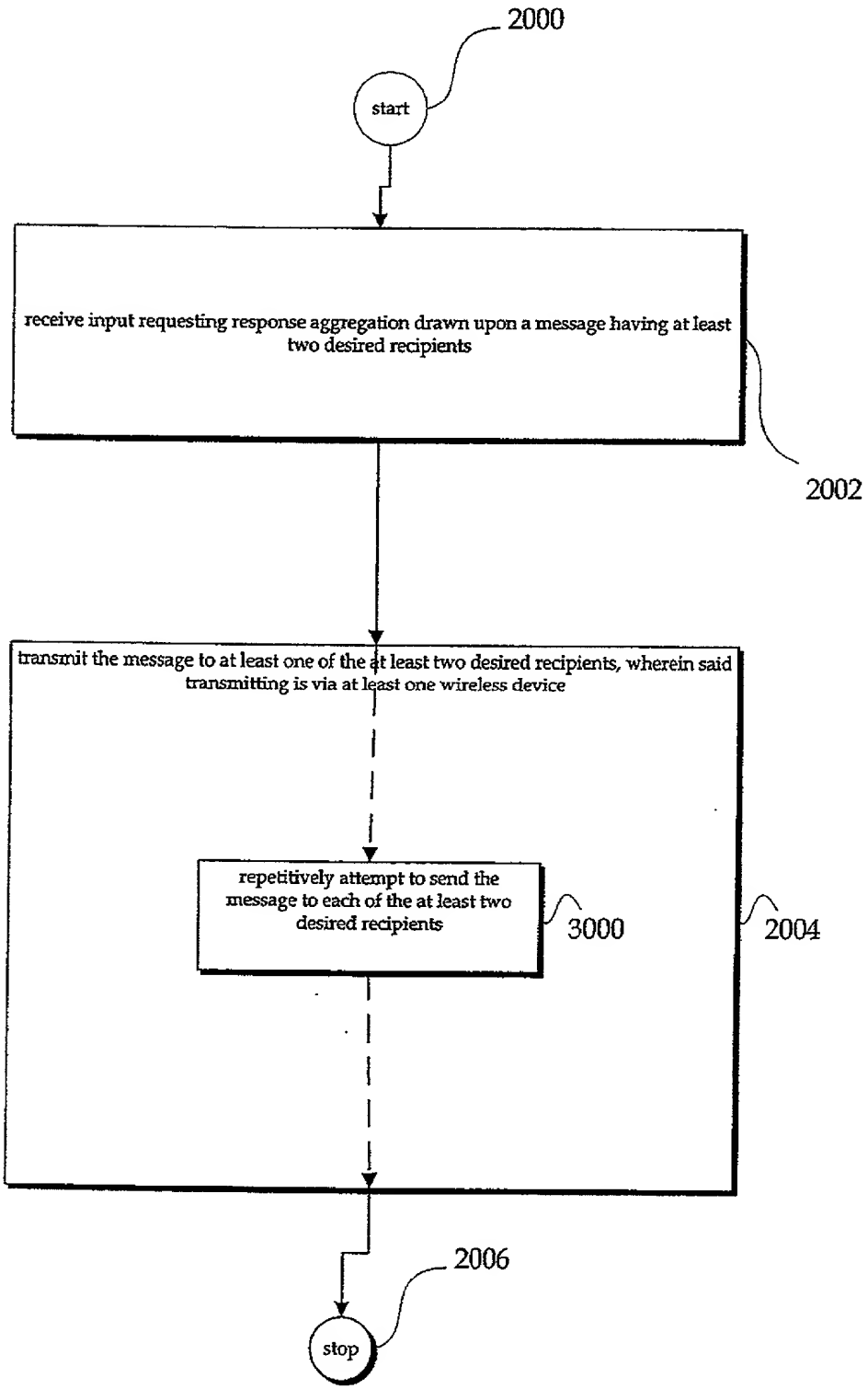
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
repetitively attempt to send the message to each of the at least two desired recipients
3000
2004
2006
stop

Fig.30

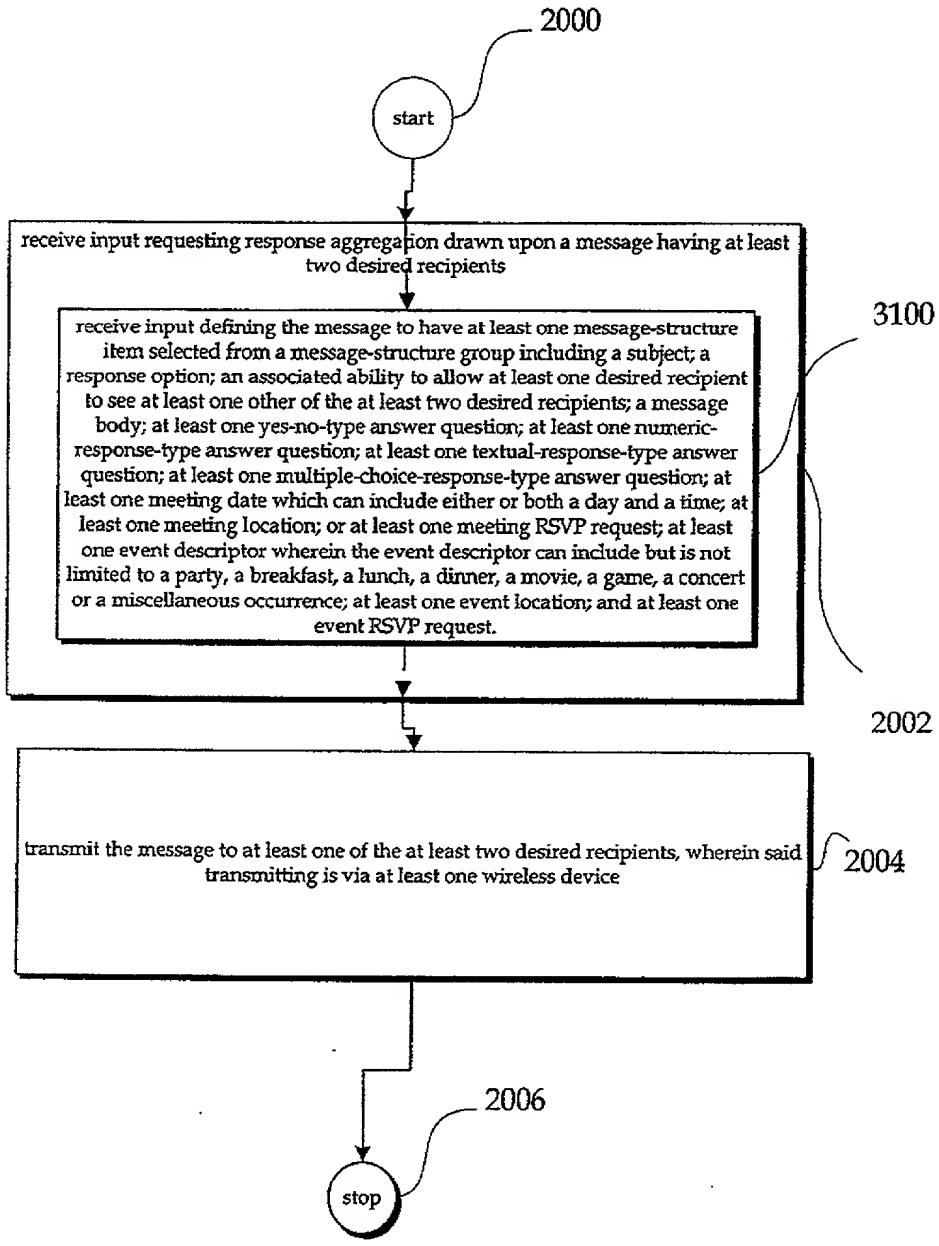
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
receive input defining the message to have at least one message-structure item selected from a message-structure group including a subject; a response option; an associated ability to allow at least one desired recipient to see at least one other of the at least two desired recipients; a message body; at least one yes-no-type answer question; at least one numeric-response-type answer question; at least one textual-response-type answer question; at least one multiple-choice-response-type answer question; at least one meeting date which can include either or both a day and a time; at least one meeting location; or at least one meeting RSVP request; at least one event descriptor wherein the event descriptor can include but is not limited to a party, a breakfast, a lunch, a dinner, a movie, a game, a concert or a miscellaneous occurrence; at least one event location; and at least one event RSVP request.
3100
2002
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2004
2006
stop

Fig.31

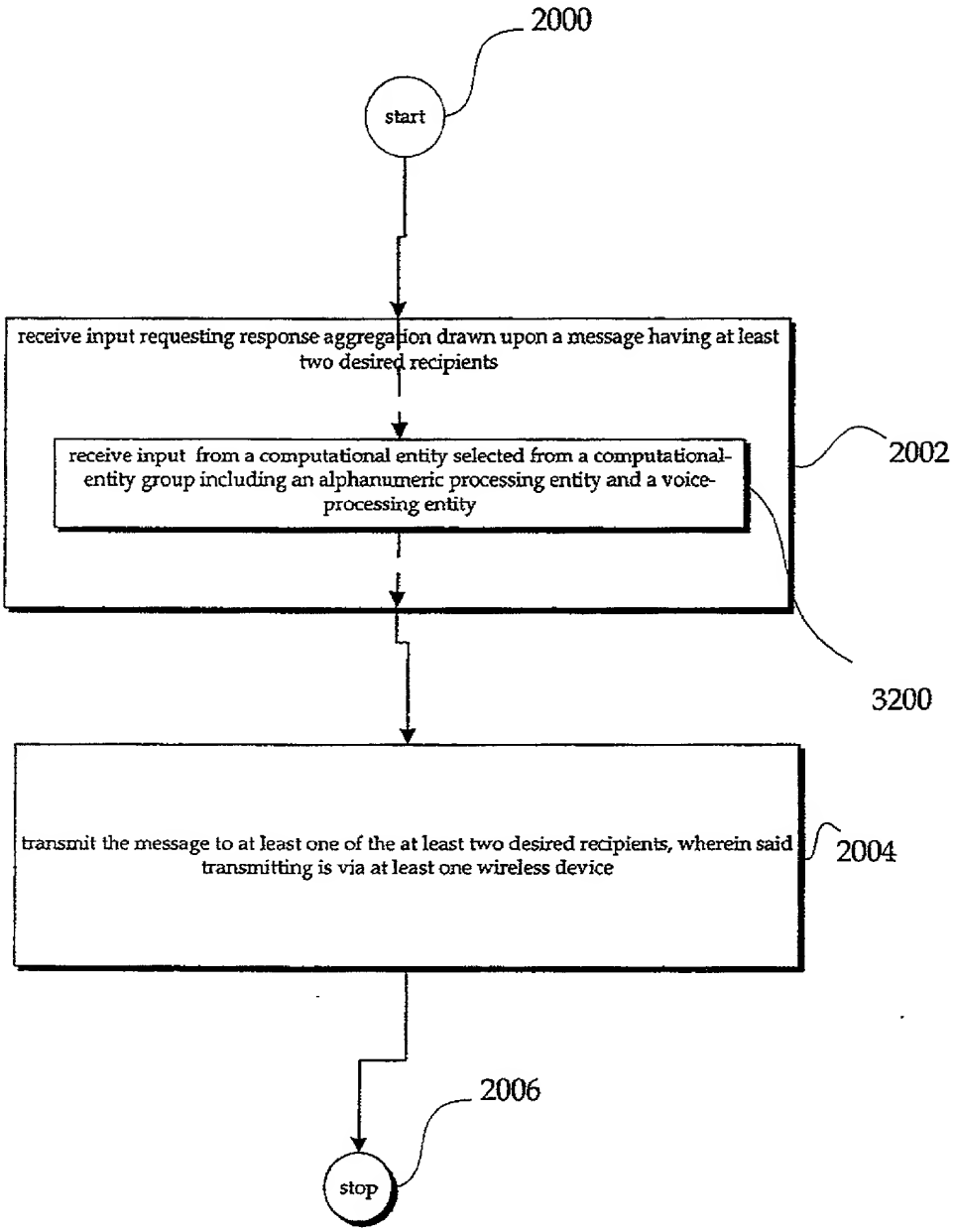
2000
start
receive input requesting response aggregation drawn upon a message having at least two desired recipients
receive input from a computational entity selected from a computational-entity group including an alphanumeric processing entity and a voice-processing entity
2002
3200
transmit the message to at least one of the at least two desired recipients, wherein said transmitting is via at least one wireless device
2004
2006
stop

Fig.32

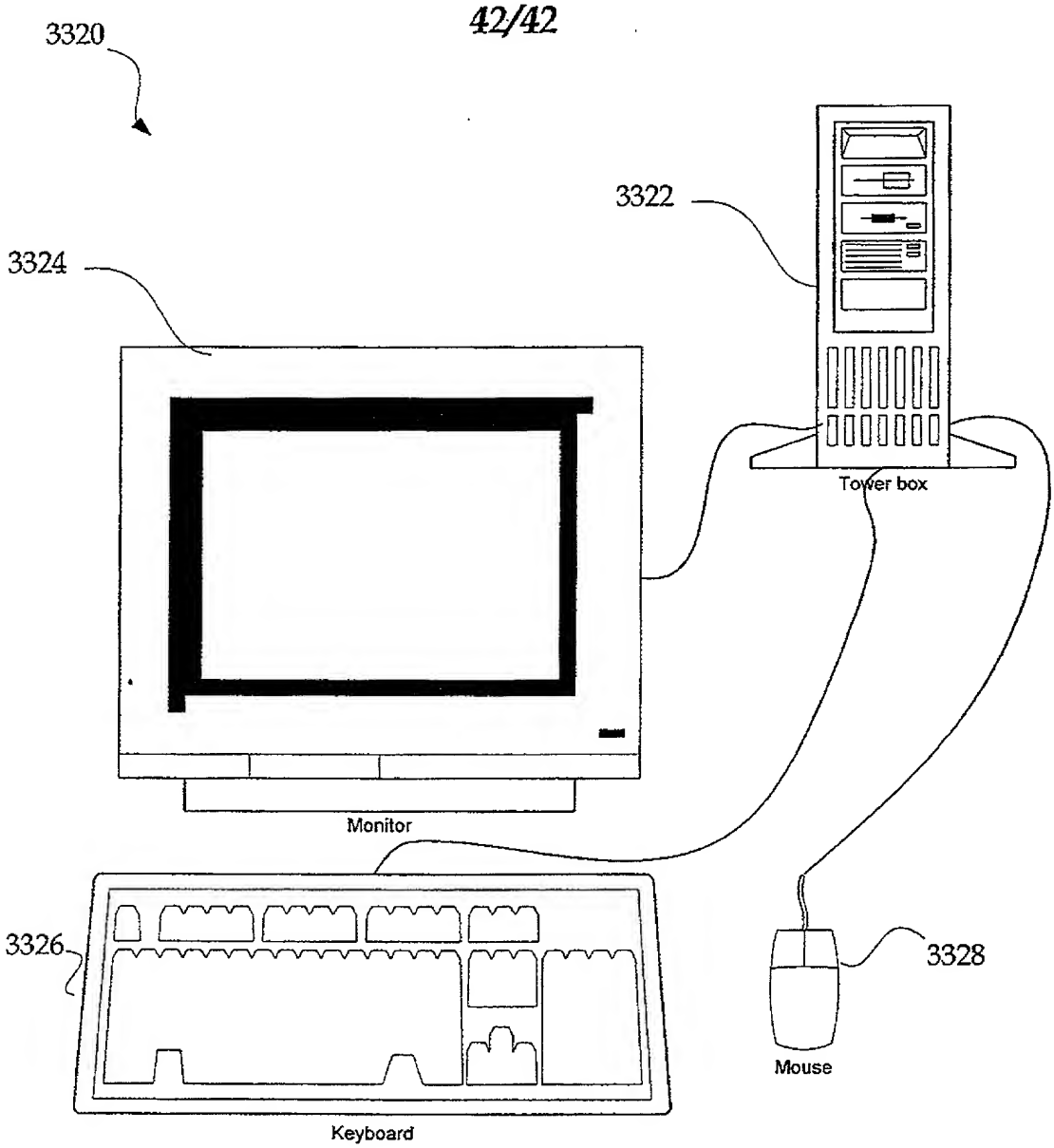

Fig.33